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A Qualitative Study of Curriculum and Instructional Efforts in relation to High Stakes Federal and District Policies in One Low-Performing Elementary School

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ABSTRACT

Issues related to instructional policy have significantly shifted in recent decades, as increased accountability has become a prominent feature of curricular reforms. High stakes policies exert tremendous pressure on districts and schools to improve student performance through incentive systems (Hall & Ryan, 2011; Loeb & Strunk, 2007). These policies send powerful messages about the importance of some subject matters over others – circumscribing skill and knowledge requirements. Literacy and mathematics, in particular, have become central measures by which districts and schools are assessed for their performance level. As a result, district officials and school leaders often employ curricular reform initiatives as a means to raise students' performance in the subject matters targeted by such policies. Policy thus compels school actors to focus resources on curriculum and assessments, professional development, and data-driven decision-making (Anagnostopoulos & Ruthledge, 2007; Honig & Hatch, 2004; Spillane, Diamond, et al., 2002; Weitz White & Rosenbaum, 2008).

This dissertation examines how high stakes policy operates in everyday interactions and practices in schools. More specifically, I analyze the different policy messages conveyed to school leaders and teachers about the ways to bring about substantial changes in curriculum and instruction. I expand the analysis by taking into account the role of district leaders and university partners in shaping which aspects of policy messages are being conveyed, negotiated and/or debated, and the ones that are ignored (Coburn & Woulfin, 2012). Using discourse analysis, I investigate the role of language as constitutive and a medium of school leaders' and teachers' social interactions with different stakeholders.

Such analyses imply an in-depth investigation of a limited number of cases. The data for this dissertation were gathered in one elementary school in a mid-West state of the USA,

as part of a larger four year longitudinal study that was carried out from 1999 to 2003 (Distributed Leadership Studies, http://www.distributedleadership.org). The dataset I analyzed includes observations of formal meetings –faculty meetings, professional development activities– as well as interviews with district administrators, university partners, school leaders and teachers.

In addition to the introduction/problem statement (chapter 1) and the discussion/conclusion chapter, this dissertation comprises a set of three interrelated, yet independent articles. In the first article (chapter 2), I provide a theoretical and empirical framework on policy implementation and the complexity of local, national, and global interrelationships at play in educational systems. To disentangle this complexity, I pay close attention to school actors' sense-making as one key dimension of the implementation process of reform initiatives. In the second article (chapter 3), I aim to better understand the social processes that shape school actors' strategic responses to high stake state and district policies in regards to a mandated curriculum and instruction in mathematics. More specifically, I explore different situations where school leaders and teachers argued about the instructional changes proposed by district leaders and university partners in order to raise test scores in mathematics in a low-performing school. In the third article (chapter 4), to disentangle the complexities of instructional improvement in a high stakes policy environment, I use the interplay of agency and structure to analyze how accountability assumptions and ideas from the policy environment and the day-to-day activities play out in interactions among school leaders and teachers about reading instruction. I explore 1) how high stakes policy shapes which elements of instruction are reproduced and which ones are transformed over time; and 2) how leaders' understandings of accountability shape which aspects of policy school actors notice through interactions and

conversations and how they attend to some policy messages while ignoring others. In the last chapter of the dissertation, I discuss the strengths and limitations of secondary analysis of qualitative data, the implications of the findings for the policy implementation field and future research avenues.

KEY WORDS: High stakes policy, curriculum and instructional reform, school actors, university partners, rhetorical analysis

RÉSUMÉ

Les enjeux liés aux politiques éducatives ont considérablement changé au cours des dernières décennies. Ces changements sont liés, entre autres, à l'accroissement de l'imputabilité et de la reddition de compte qui est devenue une caractéristique importante des réformes curriculaires et pédagogiques. Les politiques à enjeux élevés exercent une pression énorme sur les districts et les écoles états-unienne afin qu'ils augmentent le rendement des élèves en utilisant des systèmes de conséquences (Hall & Ryan, 2011; Loeb & Strunk, 2007). Ces politiques envoient de puissants messages sur l'importance de certaines matières scolaires au détriment d'autres - circonscrivant les exigences en termes de compétences et de connaissances. La langue maternelle d'enseignement et les mathématiques sont devenues des mesures centrales sur lesquelles reposent l'évaluation et le degré de performance des districts et des écoles. Conséquemment, les administrateurs de districts et les directions d'écoles ont souvent recours à des réformes curriculaires et pédagogiques comme moyen d'augmenter le rendement des élèves dans les matières scolaires visées par ces politiques. Les politiques contraignent les acteurs scolaires de concentrer les ressources sur les programmes curriculaires et les évaluations, le développement professionnel, et la prise de décision pilotée par les données (Anagnostopoulos & Ruthledge, 2007; Honig & Hatch, 2004; Spillane, Diamond, et al., 2002; Weitz White & Rosenbaum, 2008).

Cette thèse examine la manière dont les politiques à enjeux élevés opèrent quotidiennement dans les interactions et les pratiques au sein des écoles. Nous analysons plus particulièrement les différents messages provenant de la politique transmis aux acteurs scolaires sur les manières d'apporter des changements substantiels dans le curriculum et l'enseignement. Nous élargissons l'analyse en prenant en compte le rôle des administrateurs de

district ainsi que des partenaires universitaires qui façonnent également la manière dont certains aspects des messages provenant des politiques sont transmis, négociés et/ou débattus et d'autres sont ignorés (Coburn & Woulfin, 2012). En utilisant l'analyse de discours, nous examinons le rôle du langage comme constituant et médiateur des interactions sociales entre les acteurs scolaires et d'autres parties prenantes.

De telles analyses impliquent une investigation approfondie d'un nombre d'étude de cas limité. Les données utilisées dans cette thèse ont été colligées dans une école primaire états-unienne du mid-West. Cette étude de cas fait partie d'une étude longitudinale de quatre ans qui comprenait huit écoles dans les milieux urbains entre 1999 et 2003 (Distributed Leadership Studies, http://www.distributedleadership.org). La base de données analysée inclut des observations de réunions formelles et des entrevues auprès des administrateurs du district, des partenaires universitaires, de la direction d'école et des enseignants.

En plus de l'introduction et de la problématique (chapitre 1) et de discussion et conclusion (chapitre 5), cette thèse comprend un ensemble de trois articles interdépendants. Dans le premier article (chapitre 2), nous effectuons une recension des écrits portant sur le domaine de l'implantation de politiques (policy implementation) et la complexité des relations locales, nationales et internationales dans les systèmes éducatifs. Pour démystifier cette complexité, nous portons une attention particulière à la construction de sens des acteurs scolaires comme étant une dimension clé du processus de mise en œuvre des réformes. Dans le deuxième article (chapitre 3), nous cherchons à comprendre les processus sociaux qui façonnent les réponses stratégiques des acteurs scolaires à l'égard des politiques du district et de l'état et en lien avec la mise en œuvre d'un curriculum prescrit en mathématiques. Plus particulièrement, nous explorons les différentes situations dans lesquelles les acteurs scolaires

argumentent au sujet des changements curriculaires et pédagogiques proposés par les administrateurs de district et des partenaires universitaires afin d'augmenter les résultats scolaires en mathématiques dans une école à faible performance. Dans le troisième article (chapitre 4), nous cherchons à démystifier les complexités liées à l'amélioration de l'enseignement dans un environnement de politiques à enjeux élevés. Pour ce faire, nous utilisons l'interaction entre les notions d'agentivité et la structure afin d'analyser la manière dont les conceptions d'imputabilité et les idées qui découlent de l'environnement politique et les activités quotidiennes jouent dans les interactions entre les acteurs scolaires concernant sur l'enseignement de la langue maternelle. Nous explorons trois objectifs spécifiques : 1) la manière dont les politiques à enjeux élevés façonnent les éléments de l'enseignement qui sont reproduits et ceux qui sont transformés au fil du temps ; 2) la manière dont la compréhension des leaders de l'imputabilité façonne les aspects des messages politiques que les acteurs scolaires remarquent à travers les interactions et les conversations et 3) la manière les acteurs scolaires portent une attention particulière à certaines messages au détriment d'autres. Dans le dernier chapitre de cette thèse, nous discutons les forces et les limites de l'analyse secondaire de données qualitatives, les implications des résultats pour le domaine d'études de l'implantation de politiques et les pistes futures de recherches.

MOTS CLÉS: politiques à enjeux élevés, réforme curriculaire, acteurs scolaires, analyse rhétorique

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LIST OF ABBREVIATIONS

AYP: Adequate Yearly Progress

ISAT: Illinois State Achievement Test

NCLB: No Child Left Behind

NCTM: National Council of Teachers of Mathematics

OECD: Organization for Economic Cooperation and Development

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CHAPTER 1: BACKGROUND AND PROBLEM STATEMENT

Over the past two decades, we have witnessed global policy trends and convergences among national educational systems. These convergences can be explained by numerous phenomena such as policy borrowing, the transposition of instruments and experiments deemed efficient in certain countries, increased knowledge circulation concerning teaching and learning, and international ranking programs and assessments of education systems conducted by international organizations (Harris, 2009). Among these convergences also lie a set of institutional isomorphisms that impact the management of educational systems, the conception of curriculum (i.e. setting skills and competency), time allocated to specific subject matters (e.g. mathematics, literacy and science), and learning theories and pedagogical methods (Anderson-Levitt, 2003 ; Cohen, 2011). While policy and instrument borrowing and international assessment programs are being implemented in culturally different countries, policymakers often use their results as leverage to manage system-wide reform initiatives and put more pressure on schools to demonstrate continuous improvement.

Accountability systems constitute one key feature of these global trends. More specifically, accountability measures, assessment data and raising educational standards have become central to education policy in nation states (Cowie & Cisneros-Cohernor, 2011). Consequently, this transformation has changed the landscape of curriculum and instructional efforts and reform initiatives conducted at the national and local levels. In this chapter, I begin by briefly describing how these global trends manifest in the educational system in the United States of America. More specifically, I examine the four educational reform principles of accountability that are intended to produce organizational and instructional improvements within the educational system: (1) standard-based curriculum and instruction, (2) local control

and flexibility, (3) school choice policy, and (4) evidence-based programming, decision-making and practices. I then show the complexity of including these principles in a large-scale reform and the challenges it represents in terms of policy implementation.

THE RISE OF ACCOUNTABILITY IN THE U.S. PUBLIC SCHOOLS

1.1. U.S. Educational Reform: The No Child Left Behind Act

In 2001, the U.S. Department of Education launched large-scale policy initiatives to bring about deep and large-scale changes intended to ensure that all students achieve high academic standards (Honig, 2008). The federal government aimed the reduction of achievement gaps that sustain racial and social inequalities among American children. Federal policymakers called upon system actors at the state, district and school levels to provide policy alignment and coherence in joint efforts and intensive action to achieve substantive instructional improvement. In so doing, the No Child Left Behind Act reauthorized Title 1 Elementary and Secondary Education Act (ESEA) program, a federal funding for K-12 schools (Bohrnstedt & O'Day, 2008). Federal funding is directed towards improving educational opportunities for poor and low-achieving students in the United States. According to the National Center for Education Statistics, more than 56,000 public schools (representing approximately 57% of public schools) used Title I funds to provide additional academic support for low-achieving students during the year 2009-2010 (NAEP, 2013, online). The reauthorization proposed a fundamental shift in the federal role in education by explicitly tying federal funds to districts' and schools' performance measured by standardized tests (Cohen, 1995; Karen, 2008). The federal government uses accountability measures as feedback mechanisms to provide data about the ongoing progress of both the system and

individual schools. Federal policymakers developed the Adequate Yearly Progress (AYP) as a valid measure to monitor and oversee that schools and districts reach state academic standards. They required annual state testing at least once during each of three grade spans: 3 to 5, 6 to 9 and 10 to 12 (Bohrnstedt & O'Day, 2008; Carlson Le Floch, 2008; Goertz & Duffy, 2003). The federal government determined the minimum percentages of academic attainment level for each subject matter by states. AYP includes disaggregated data by both reading/language, high school graduation rates, participation rates (Carlson Le Floch, 2008). If Title I districts or schools do not reach AYP over two consecutive years in reading/language arts and mathematics, they are, then, labeled « A School In Need of Improvement » and face specific consequences. The U.S. Department of Education also established requirements for each state to follow such as state accountability plans, assessment systems and assessment instruments.

1.2 The Centrality of Accountability in No Child Left Behind

Under the No Child Left Behind Act, stronger educational accountability became a central theme of the political agenda. The accountability priority in policies and instruments shifted the focus of traditional modes of governance from the delivery of designated educational inputs, means and processes towards educational outcomes (e.g. student performance measured by standardized tests) (O'Day, 2008). Accountability can be understood as a means "*to answer to a constituent, superior, or customer for one's performance, primarily by reporting and/or justifying procedures and results"* (Firestone & Shipps, 2005, p.83). However, the political agenda presents different accountability forms and assumptions about the nature of the improvement, the amount of organizational and instructional improvements expected and the outcomes anticipated (Ben Jaafar and Anderson,

2007). Thus, there is no single way to operationalize accountability because its political nature redefines the numerous relationships between school actors with different stakeholders. These relationships depend on different elements: 1) who is accountable to whom, 2) how the accountability process is accomplished and 3) to what end. As answers of these questions, the No Child Left Behind Act incorporates the four reform principles of accountability listed above. In the next section, I will briefly describe the implications of these four principles for districts and schools.

1.2.1 Standard-based Curriculum and Instruction

The reauthorization of Title 1, Part A of the ESEA continued the previous revisions of the existing federal funding. In the 1990's, the standard-based movement aimed to push the educational system towards high instructional goals, ambitious curriculum content and performance standards and accountability measures based on students' results (Cohen, 1995; Clune, 1993; Goertz and Duffy, 2003). Instructional policies had three important characteristics: greater coherence, ambition and sustainability (Cohen, 1995; Clune, 1993). A large-scale reform was designed to amalgamate joint efforts focused on "many policies pointed towards student achievement" (Clune, 1993, p.153). The No Child Left Behind Act expanded state assessment requirements to include every student in reading and mathematics and later on in science (Goertz & Duffy, 2003). Accountability measures focus mainly on student outcomes as a measure of system and teaching performance (Karen, 2008; O'Day, 2008). This form of accountability assumes that the imposition of a system of consequences (e.g. incentives and penalties) will motivate districts and schools to make the curriculum and instructional improvements necessary to achieve better student performance (Loeb & Strunk, 2007; Poole, 2011).

1.2.2 Local Control and Flexibility

Historically, the participation and representation of community and parents took place through local school boards (Carnoy & Loeb, 2003). The idea was that local constituents, parents or teachers know best how to educate their students (Ravitch, 2009; Asen, Gurke, Solomon, Conners & Gumm, 2011). The No Child Left Behind Act of 2001 provided districts and schools with more flexibility and greater discretion on how they spend federal funds while demanding accounts on how they used resources (U.S. Department of Education, 2011, online). Local control and flexibility aim at increasing the involvement of community members and parents in the governance structure of schools through school councils or school improvement teams (i.e. decision-making and involvement in setting schools' goals). This form of accountability is used to reflect the values and preferences of parents and the local community. Local constituents, who direct the daily operations of schools and classrooms, face an increasing number of federal prescriptions designed to guide their decision-making (Asen et al., 2011). As a result, the relationship between school actors and community members shifted towards a "consumer satisfaction" one. Some of the key areas where community members have gained in authority are budgets, staffing and instructional decisions.

1.2.3 School Choice Policy

Under the No Child Left Behind Act, parents and students of schools identified as "In Need of Improvement" are offered educational options. The legislation stipulates that the schools are legally required to offer school choice to the parents of students enrolled in those schools (O'Day, 2008). School choice policy assumes that students will perform better if they transfer from low-performing or failing schools to better ones. The model of accountability

assumes that pressures exercised by families will be more efficient than the traditional control of public authorities to induce these school improvements (Dupriez & Dumay, 2011).

The Voluntary Public School Choice Program opens-up the traditional school system based on students' residential location to specialized educational facilities (i.e. magnet, charter and private schools). Policy instruments include open enrollment plans, magnet schools, vouchers and charter schools (Jennings, 2010). Competition among schools is used as an incentive to improve teaching and learning, and encourage instructional innovation (Firestone and Shipps, 2005; Leithwood, 2001). The relationships between school actors and parents shifted towards a logic of "consumer-provider", schools becoming providers of educational services to parents and students.

1.2.4 Evidence-based Programs, Decision-Making and Practices

The No Child Left Behind Act emphasizes "determining which educational programs and practices have been proven effective through rigorous scientific research*"* (U.S. Department of Education, 2011, online). The U.S. Department of Education requires states, districts and schools to use scientifically based programs and teaching methods. States use different scientific criteria to determine whether curricular programs have been proven scientifically efficient, and decide if they are eligible to be on the list of possible curricula in districts and schools. Districts and schools must adopt empirically proven educational programs, and use new forms of evidence-based decision-making and practices in leadership, management and instruction (Honig, 2008). They must collect, analyze and interpret data systematically to demonstrate the achievement of the AYP standards, while carefully monitoring and readjusting to legitimize a variety of school improvement decisions (Honig and Coburn, 2008; Leithwood, 2001).

Under the No Child Left Behind Act of 2001, Section 1116 (b), schools labeled "In Need of Improvement" must also develop or revise the school improvement plan to "incorporate strategies based on scientifically based research that will strengthen the core academic subjects in the school and address the specific academic issues that caused the school to be identified for school improvement" (U.S. Department of Education, 2011, online). Districts and schools are required to reach quickly state academic standards all the while demonstrating that they have used the best available evidence to support their interventions.

1.3 The Role of States

The U.S. federal government recognizes the States' constitutional authority to set standards, establish measurable goals and develop assessments (Karen, 2008; O'Day, 2008). Each state has the mandate to coordinate curriculum frameworks, student assessments, teacher training and school change to create a "coherent" vision (Cohen, 1995; Clune, 1993). The Department of Education of each state is also responsible for identifying and targeting districts and schools that have not reached the AYP. The measurements of standards through standardized tests contribute to identifying low-performing schools and allocating resources to them (Anagnostopoulos & Rutledge, 2007; Karen, 2008; O'Day, 2008). States also hold the authority to determine the system of accountability and external pressures exerted on districts and schools. States must establish a twelve-year timeline to reach 100% proficiency level (by the year 2014) (Bohrnstedt & O'Day, 2008; Ravitch, 2009). They must also adopt three levels of performance (basic, proficient and advanced), and define what the proficiency level should be. States are required to report data by categories, such as race, gender, English language

proficiency, disabilities and social-economic status (Karen, 2008; O'Day, 2008). The levels of schools' performance have consequences, such as decisions on the level of federal funding and the imposition of sanctions (Karen, 2008; O'Day, 2008).

At the beginning of the years 2000, at least three categories of pressures and consequences could be found across states: low-, mid- and high-stakes testing (Carnoy, 2005; Loeb & Strunk, 2007). Low-stakes testing designates low pressures exerted on districts and schools with no sanction or rewards are imposed. Mid-stakes testing refers to a moderate system of rewards and sanctions—primarily not allowing students to pass to another grade level—, low pressures on schools and the administration of standardized tests in primary schools. High-stakes testing represents high pressures exerted on schools and districts to improve school performance (e.g. threat of reconstitution, principal's transfer, students transfer, teacher firing?) and standardized tests (e.g. high school exit exams). In 2011, 37 states rewarded school staff with financial incentives based on increased or high student performance and 32 states sanctioned school staff based on low-performing students (Quality Counts, 2013).

In the next section, I explore the issues related to the implementation of policies and instruments in a large, diverse and fragmented public educational system. I examine how high stakes policy shapes the ways districts and schools operate on a day-to-day basis.

PROBLEM STATEMENT

Policies have significantly shifted in recent years as constituents demand greater transparency and efficiency in the allocation of resources by public administrators (Levin, 2007; Powers, 1996). Public school systems are not sheltered from these demands. In the United States, the introduction of No Child Left Behind is one example of these efforts. Districts and schools are required to demonstrate their efforts in using the resources efficiently to achieve expected outcomes. Public schools, thus, face challenging times as policies have increased in accountability, complexity, depth and multiplicity. School leaders and teachers operate in a context of multilevel governance where policies are reformulated and transformed by different actors of the traditional school system. They are also confronted with an environment in which different demands are being formulated and outcomes are being expected outside of the traditional system. Although the idea of large-scale reform is to push system actors in the same direction, schools are left trying to figure out how to manage simultaneous demands coming from different layers of governance, while scrambling for adequate resources, guidance and responses.

1.4 Large-Scale Reform of the U.S. Public Educational System

The U.S. public educational system is a large, diverse and fragmented system, historically very hard to change. One of the many challenges of implementing policies, especially in large-scale reform efforts, is to painstakingly orchestrate policy coherence within and across the different layers of governance (Honig & Hatch, 2004). Policies and instruments go through different channels of authority, decision-making and interpretations before arriving in schools. In the United States, the four official layers of governance – federal, states, districts

and schools – shape how districts and schools understand, interpret and enact policy messages within different infrastructures and different geographical and socioeconomic realities (Cohen, 1995).

Policies seek to solve some of the issues related to large-scale efforts by creating new policy instruments (i.e. curriculum framework and content, academic standards and testing systems), encouraging a wide range of system actors to participate in changing school actors' behaviors, and reducing the incoherence among policies, bureaucracies and governance that constrained past efforts (Cohen, 1995; Levin, 2007). To achieve policy coherence, it is expected that the policy instruments aimed to achieve alignment in reform efforts and intensive action from the different system and nonsystem actors involved at various layers of governance would result in substantive instructional changes over time (Carnoy & Loeb, 2002; Clune, 1991). The idea is to push system actors in the same direction so that they focus and coordinate their actions based on expected outcomes, academic standards and tests. They must ensure the alignment of curriculum and testing systems with federal, state, districts and local standards.

Some authors have argued that policy incoherence may be inevitable given the political and social dynamics that unfold within and outside the public educational system (Coburn, 2005; Honig & Hatch, 2004; Levin, 2007). Schools, local governments, state governments, intermediate and special district governments in between, and several federal agencies are influenced by countless private organizations that have accelerated the growth of diverse activities within district and local schools (Levin, 2007; Wallace, 2003). Other authors have cautioned that handling policy coherence through accountability mechanisms and measures at the federal level may be wrongheaded (Honig & Hatch, 2004; Levin, 2007). For Honig and

Hatch (2004), federal governments have ignored at least two important dimensions: 1) policymakers cannot subsume the different strands of policymaking activities that go on within states, districts and schools; and 2) system actors may experience the same arrangements differently. Coburn (2005) posited that crafting coherence at the school level may be a potential solution in order to solve demands among the broad range of system and non-system actors from multiple levels and sectors of the environment.

1.4.1 Districts

In large scale efforts, district central office administrators are also encouraged to participate in policy initiatives by working in partnership with schools to support and guide them in making improvements (Honig, 2008; Finnigan & O'Day, 2003). District administrators' expected roles consist of reinforcing schools' capacity in teaching and "promoting" student learning, using their experience to offer assistance, providing coaching to schools and showing them how to use evidence-based practices leading to instructional improvements (Finnigan & O'Day, 2003). To achieve such results, new accountability demands require various system actors to develop new skills and knowledge to move forward as effective leaders. For instance, these new roles encompass the ability to collect and interpret data systematically in order to carefully monitor and readjust subsequent school improvements (Leithwood, 2001; Wallace & Tomlinson, 2010). The underlying assumptions of providing districts with more flexibility is that district administrators can create supporting conditions through the allocation of resources (e.g. human, material and financial) which may include sufficient time for school actors to learn individually and collectively. Yet, district central offices have responded differently. While some districts have become pro-active in helping schools implement new policies by providing assistance with data, professional development,

curriculum resources and assessments, and funding (Honig & Hatch, 2004), others have decentralized decision-making at the school level – leaving school leaders to figure out the means to bring about improvement efficiently and rapidly without appropriate support (Wallace & Tomlinson, 2010).

Some of these observed differences rest on the formal structures of districts. First, district administrators have different missions, priorities, and interests that may lead to the use of different strategies in order to design reform initiatives and support school actors (Anderson, 2003; Cawelti & Protheroe, 2001; Corcoran, Fuhrman & Belcher, 2001; McLaughlin & Talbert, 2003; Spillane, Diamond, Burch, Hallett, Jita & Zoltners, 2002). For example, some districts have chosen to extend testing systems beyond the state's requirement by developing local assessments or buying commercial assessments to monitor ongoing progress of students (Goertz & Duffy, 2003). Other districts required schools to develop improvement plans so that school actors could identify their organization's needs and report back on the improvement strategies to reach district standards. District administrators used school improvement plans for different purposes – one of which is the justification of expenditures of Title 1, or the planning of curriculum and instruction (Goertz & Duffy, 2003). Second, district administrators have varying levels of expertise and experience that may or not correspond to schools' needs. For instance, the superintendent's vision – including the focus on learning and instruction and higher expectations─ is one key variable that may explain the allocation of resources and how support is provided to schools (e.g. professional development). As suggested by Spillane, Diamond et al. (2002), district accountability policies and practices can have direct effects on the direction of schools' instructional improvement efforts. Because districts' priorities and measures vary, schools may receive mixed signals and

inconsistent advice on how to interpret and enact school policies (Cohen, 1995; Marks & Nance, 2007).

1.4.2 Schools

Local variation occurs in the administrative context and institutional arrangements – including funding, professionalization and political authority (McLaughlin, 2006). Consequently, what works in one context may not be transferable to the next. Local actors' responses are, thus, shaped by the context and social circumstances in which they work. Amongst the numerous factors explaining the various reactions at the local level, studies have identified schools' responses to district-level guidance for instruction, the type of relationship between central district administrators and local schools, and how school leaders and teachers respond to policy according to priorities and values operating in their context (Levin, 2007; McLaughlin, 1987). School leaders and teachers' divergent responses stem, amongst other things, from the different messages they receive from district administrators and specialists (Cohen, 1995). District administrators and other non-system actors also come to their encounters with school leaders and teachers with varying experiences, knowledge and feelings of efficacy—resulting in inconsistent local responses within districts (Cohen, 1995).

Some studies have suggested a focus on the multiple and complex interconnectedness of policies, different system actors and non-system actors and settings that may provide information about variable results and unintended consequences (Honig, 2006; Levin, 2007; McLaughlin, 2006). The apparent variation at different levels of governance suggests a need to focus on the extent to which the multidirectional flow of direct and mediated interactions within and between system levels shapes its outcomes and in which settings. These investigations become relevant if one considers how school improvement processes are

influenced by local governments, state governments, intermediate and special district governments in between. As a result, these joint efforts initiated by the standard-based movement have created more variety and less coherence, calling for new strategies to manage the multiple demands that are exerting increasing pressure on districts and schools (Cohen, 1995).

1.5 Centralized/Decentralized Mechanisms of Authority and Control

The lack of policy coherence can also be explained by the existing centralized and decentralized mechanisms of authority and control. Policies and their instruments must provide sufficient pressure to ensure the direction of local initiatives, to specify their requirements, and to increase the consistency of and commitment to policies (Levin, 2007; McLaughlin, 1987). At the same time, a certain level of local flexibility is necessary to build commitment to policy implementation.

Yet, the presence of multiple policies and instruments represent the persistent tensions between centralized and decentralized forms of authority (Anderson-Levitt, 2003; Honig, 2008). These tensions are exhibited through competing logics of compliance and control versus autonomy and professionalism. On the one hand, policies and instruments serve as a means of centralized control by the federal and state governments to exert pressures and ensure districts and schools' compliance with policy intent. These centralized forms of control do not necessarily take on the traditional top-down hierarchical regulatory styles of governance. Instead they propose new modes of governance such as performance-based accountability (e.g. testing structure, standard setting, consequential use of data, reporting and professional involvement), school improvement plans to report on local initiatives, incentive

structures (Powers, 1996). On the other hand, some policies and instruments seek to give more leeway to school leaders and teachers (e.g. capacity building, organizational learning and chain of command). These instruments aim at building capacity and resources, helping to mobilize school actors' capacity and providing professional development (Cohen Moffitt & Goldin, 2007; Honig, 2006). Local autonomy may encourage school actors to adapt policies to local conditions and assume responsibility for mobilizing support for policy, reducing conflict, and taking action (Cohen et al., 2007). In their study of accountability effects across states, Loeb and Strunk (2007) have underscored how policies are substantially more effective in States where local control is stronger. The authors observed that without some local control, external accountability is less effective, and sometimes ineffective and harmful.

Finding a balance between centralized direction and local decision-making stands as one of the many challenges of large and diverse educational system (Clune, 1993; Cohen, 1995; Levin, 2007). This raises the question concerning which body of governance exercises control on what and in which contexts in order to better understand where decentralized control would be desirable. This also calls into questioning how much pressure must be exerted over school actors, what processes or results must they be held accountable to, and whether or not external pressure may be necessary.

1.5.1 The Role of External Assistance and Support

Adding to the challenges of finding a balance between centralized direction and local decision-making is a web of system and non-system actors with an extensive range of specialized knowledge and priorities (Wallace, 2003). Although previous reforms targeted primarily school staff, policies now include a broader audience—people and organizations at school, district, state and federal levels that may influence student learning directly or

indirectly (Honig, 2006; McLaughlin, 2006). System and non-system actors (e.g. community coalitions, organization advocacies, and families) can, thus, contribute to the implementation process by adopting different roles that may shape its desirable outcomes.

Some studies have explored how and why certain non-system actors (e.g. business leaders, city mayors, consultants, universities affiliated in professional development, and coaches) have an indirect influence on the process and its outcomes (Coburn, 2005; Honig, 2006; McLaughlin, 2006). Thus far, non-system actors, who intervene in the joint efforts of raising standards in districts and schools, may exert different levels of authority and/or power in influencing system actors to change their practices. Although these non-system actors do not play the same role or exert the same level of authority within schools, they are still described as a mediating link between policy and practice. Non-system actors are also invited to join the systemic efforts in order to achieve substantial changes in instruction. Coburn and Woulfin (2012) showed how teachers were more likely to make substantial changes when they learned about the policy messages from a coach rather than from any other source. Beyond their educational roles, these actors also played a political role in negotiating, pressuring and persuading local actors to focus on some aspects of instructional policies. Other scholars have pointed out how the insufficient support to guide the substantial needs of schools and their actors, the lack of communication and of consistency in the type of interventions offered to schools (i.e. multiple and fragmented interventions) limited the opportunities to bring about deep changes in practice (Finnigan & O'Day, 2003). This suggests looking at the role of external assistance and the conditions that can bring about substantial changes in schools' organization and practices.

1.5.2 School Leaders and Teachers

School leaders and teachers assess an overwhelming number of policies throughout the public educational system that converge on their schools. They are often left to deal with the ambiguous task of understanding, and responding to multiple policy messages, competing ideas, divergent expectations put forwards by system and non-system actors, at times contradictory, unwanted and/or incompatible with school improvement initiatives (Anagnostopoulos & Rutledge, 2007; Spillane, Diamond Burch, Hallett, Jita & Zoltners, 2002).

School leaders' and teachers' priorities are significantly mediated by multiple overlapping external demands (i.e. states, school districts, local boards, school improvement teams, and parent associations) as well as their schools' conditions (i.e. resource availability, teachers' professional relationships, school members' expectations and values) (Hall and Ryan, 2011; Marks and Nance, 2007; Rouse, et al. 2007; Spillane, Diamond et al., 2002). How school actors understand and decide whether or not to respond to certain demands, thus, depends on numerous variables. For instance, how principals are able to mobilize a sufficient number of teachers depends on their ability to make sense of the problem in ways that resonate with teachers (Coburn, 2006; Spillane, Diamond et al., 2002). Principals who could not circumscribe the probable causes of their schools' weaknesses and failures, struggled to guide and lead instructional improvements (Anagnostopoulos & Rutledge, 2007; Coburn, 2006). School leaders may also seek external support to bring about instructional changes in order to align curriculum and instruction with district and state standards. Yet, as previously illustrated, the role of external support may also vary depending on their ability to negotiate and persuade school actors of the benefits of instructional changes.

This suggest paying careful attention to the full range of mechanisms by which school leaders and teachers are connected with policy messages, including the interactions – influence and authority of system actors and non-system actors– that mediate the relationship between policy and practice (Coburn, 2005; Honig, 2006). In other words, exploring the wide range of connections, of reciprocal relationships among system and non-system actors and the sectors of influences may provide valuable insights about the processes and conditions that shape how school leaders and teachers respond to policy messages and in what ways.

1.6 Research Questions and Objectives

How school leaders and teachers understand multiple policy messages locally still requires more investigation (Fullan, 2009). Large-scale reforms have proven to be a complex and unpredictable process. As different system and non-system actors struggle to reach higher academic standards, many questions remain as to how to successfully implement curriculum and instruction to meet policy demands. To contribute to answering this broad question, I set out to answer two more specific ones: (a) What are the social processes that shape school actors' strategic responses to high stake state and district policies in regards to mandated curriculum and instruction? b) How do accountability assumptions and ideas from the policy environment and the day-to-day activities play out in interactions among school leaders and teachers about instruction? In pursuing these questions, this dissertation aims to explore how high stakes policy operates in everyday interactions and practices in schools. More specifically, I pay attention to the different policy messages conveyed to school leaders and teachers about the ways to bring about substantial changes in curriculum and/or instruction in two high stakes subject matters, namely mathematics and language arts. I expand the analysis

by taking into account the role of district leaders and university partners in shaping which aspects of policy messages are being conveyed, negotiated and/or debated, and the ones that are ignored (Coburn & Woulfin, 2012).

This dissertation is a set of three interrelated, yet independent articles. In the first article (chapter 2), I provide a theoretical and empirical framework on policy implementation and the complexity of local, national, and global interrelationships at play in education systems, by paying close attention to school actors' sense-making as one key dimension of the implementation process of reform initiatives. In the second article (chapter 3), I aim to better understand the social processes that shape school actors' strategic responses to high stake state and district policies, specifically in terms of instruction and reformed curriculum. More specifically, I explore different situations where school leaders and teachers argued about the propositions made by district leaders and university partners to implement a new mathematics curriculum in order to raise test scores in a low-performing school. In the third article (chapter 4), I aim to better understand how both high-stakes policy and new instructional practices structure implementation in day-to-day school leaders' and teachers' practice. More specifically, I explore which elements of reading instruction are reproduced and which are transformed over time in the school routines. I also take into account how different leaders and teachers come to understand how to bring about instructional changes (e.g., professional or bureaucratic) from different policy messages that carry distinct accountability assumptions and notions. The last chapter discusses the strengths and limitations of secondary analysis of qualitative data, the implications of the findings for the policy implementation field and future research avenues.

This dissertation does not include a separate chapter on methodology. Instead, methodological considerations are dealt with in each article. In the next section, I provide an overview of the larger research program from which the data for this dissertation were selected.

1.7 The Distributed Leadership Study (DLS)

1.7.1. Overview

The data on which this dissertation is based were collected as part of a larger research program entitled: the Distributed Leadership Studies (http:// www.distributedleadership.org). The research program was funded by two research grants from the National Science Foundation (mathematics and science) and the Spencer Foundation (language arts). Northwestern University's School of Education and Social Policy and Institute for Policy Research also supported this work. James P. Spillane, the principal investigator of the Distributed Leadership Studies, conducted a four year longitudinal study from 1999 until 2003 in eight urban elementary schools in a Chicago metropolitan area. The initial research program was designed to investigate leadership practices from a distributed leadership framework.

Spillane based his research program on two theoretical assumptions about school leadership. First, leadership can be understood as a practice of instructional improvement. As such, school leadership involves helping teachers to acquire new skills and knowledge about teaching, learning and the subject matter they teach. Spillane, thus, designed the program to attend to the processes school leaders used to build the conditions necessary for instructional improvement. For example, this raised the question of how school leaders understood and enacted their roles and the nature of the interactions they encouraged to facilitate instructional

improvement. Second, leadership practices are mediated by the subject matter subcultures. The study therefore focused on the role of subject matters (e.g. mathematics and language arts) as a context for leadership practices, focusing on school leaders' content knowledge and pedagogical content knowledge about specific subject matters.

The distributed framework seeks to provide an understanding of the role of leadership that moved beyond that of the school principals. In this view, leadership practice is constituted in the interactions of leaders with others (both leaders and followers) and with particular material and organizational artifacts around particular tasks. The framework enables examining the range of leadership roles and tasks in a school, but also the leadership practices that enable instructional improvement. In this view, teacher leaders and other professionals can also play an important role in the enactment of curriculum reforms. The term "school leader" designates the individuals with formal leadership positions, and individuals who are highly influential as measured by a network data analysis, but do not have formal leadership positions (i.e. informal leaders).

The research program also took into account three aspects of the distributed framework: 1) the leaders' cognition (beliefs and knowledge), 2) the social distribution of leadership practice within school, and 3) the situation of distributed practice (physical and organizational environment). This implies, for example, that a leader's thinking and practice were enabled by other leaders and by the material and symbolic artifacts in the environment.

The research program was designed to help school leaders reflect on and analyze their practice rather than simply providing a prescription for their practice. The study sought to observe and systematically analyze how leaders operate to improve instruction. The two central research objectives were:

1. to develop a framework that describes and analyzes school leadership as a distributed practice in order to generate a comprehensive model of that practice as a school-level phenomenon and activity; and
2. to identify and investigate those factors that influence the ways in which leadership practice is constituted in schools, by exploring intra- and inter-school variations in leadership practice.

The research program was based on three sets of guiding research questions that reflected the cognitive, social and situational aspects of the distributed framework:

1. How do leaders' knowledge and beliefs about their role, teaching and learning, teacher learning and change, and students influence the leadership tasks they work on and the ways in which they enact these tasks?
2. How and in what ways is school leadership distributed socially? What are the consequences of this social distribution of practice for the nature of that practice and instructional improvement?
3. How do aspects of the physical and organizational environment of the school serve as vehicles or artifacts that enable leadership practice?

These guiding research questions served to develop a comprehensive profile of leadership practice in each school.

1.7.2 Research Methodology

Data gathering to answer these questions included two distinct phases. The first phase involved observing and interviewing school leaders and teachers in two elementary schools over a period of five months. Two researchers spent on average 1.5 days per week in each school. This first phase served to gain a thick description in order to refine the distributed

framework for studying the practice of school leadership. Researchers also piloted and refined interview and observations protocols. They also identified formal and informal leaders as well as a set of leadership tasks and practices to systematically collect and analyze in the next phase.

The second phase included focused observations, semi-structured and structured interviews and a series of closed and open-ended questionnaire items about teachers' practice. The interviews with school leaders pursued two goals. The first goal was to examine school leaders' conceptions on various topics such as their knowledge and beliefs about mathematics, instruction and learning, students, teachers and teacher change, their tasks and their practice. The second goal was to make follow-up on the leadership practice observed. Observations served to track some key leadership tasks (e.g. grade level subject matter meetings, professional development workshops, supervision and evaluation of teachers' practice). The observations were videotaped and researchers also wrote field notes following each observation. To explore the relation between leadership practice and teachers' efforts to change their instruction, classroom observations and post-observation interviews were used to track instructional changes. Classroom observations served to examine some dimensions of their instruction such as the use of material, the content of academic task and the content and nature of classroom discourse. Post-observation interviews were conducted to understand 1) the nature of changes in instruction from the teachers' perspective and 2) what has facilitated and supported these changes, especially the influence of particular leadership practices. As in phase one, researchers spent on average 1.5 days per week in each school during the school year at each school site. A series of closed and open-ended questionnaire items about teachers' practice were administered. The questionnaires were based on the Third International

Mathematics and Science Study (TIMSS) teacher questionnaire items and questionnaire items developed by the Center for the Study of the Context of Teaching (Stanford University). The questionnaires were not intended to establish causation, but to examine instructional changes as a correlation of leadership practice.

1.8 The relevance of secondary analysis of this dataset

The DLS generated an impressive, rich and varied dataset. Even though it may appear outdated, analyzing this dataset today is relevant to better understand policy implementation issues at the school level. First, the timing of the data collection is significant. Indeed, it occurred during a critical time in the history of the U.S. educational system. Many fundamental changes happened simultaneously at the federal, state and district levels and converged onto schools at that time. For the purpose of this dissertation, I observed two important movements that occurred simultaneously in the case of Wayne Elementary School, the school I chose to focus on: the increased accountability policy and the standard-based reforms. The accountability movement represented a fundamental shift in the institutional logic of education, changing considerably its core conceptions and values about teaching and learning. For instance, wider institutional changes instantiated by the federal and state governments, aimed at aligning instruction with *outcomes* -standards and high stake tests-, departed from the previous logic that focused on *means and processes*. The period during which the data was collected, thus, enabled to observe and analyze how the emerging accountability logic interacted with the more established and taken for granted logics of local autonomy and professionalism at the school level (Lowenhaupt, Spillane, & Hallett, forthcoming; Spillane & Anderson, 2013). The standard-based movement aimed to push the quality of instruction towards high instructional goals, ambitious curriculum content and

performance standards, departing from the logic of teaching basic skills and knowledge to some students to ensuring that all students reach higher standards (Cohen, 1995; Clune, 1993; Goertz and Duffy, 2003; Honig, 2008). While this movement was introduced in the 1990's, the implementation of standard-based curriculum and instruction had not been enacted in all the district and schools. In the case of Wayne Elementary School, the standard-based curriculum reforms had recently been initiated by the district.

Second, there is added-value in still using the data generated from the Distributed Leadership Study because the dataset allows examining many remaining questions from both a policy implementation and a distributed leadership perspectives. From a policy implementation standpoint, as previously mentioned, with these data, one can examine a critical time in terms of policy movement and institutional, organizational and instructional changes in the U.S. educational system at different policymaking levels. Moreover, the data are appropriate for analyzing how school leaders and teachers understood and enacted the simultaneous accountability and standard-based curriculum demands. From a distributed leadership perspective, the in-depth analysis of the practice of leaders in day-to-day interactions allows exploring the role of a range of leaders (district leaders, university partners, teacher leaders) that support the enactment of standard-based curriculum reforms. We still know little about the multiple and simultaneous internal and external influences and the various relationships between school actors and other system actors that shape the direction of instructional improvement.

CHAPTER 2: SENSE-MAKING AS THEORETICAL AND EMPIRICAL FRAMEWORK FOR THE STUDY OF POLICY IMPLEMENTATION

Issues related to policy implementation in the field of education have changed considerably in OECD countries over the past two decades. This is primarily due to the pressures brought forth by cross-national comparative rankings and assessments conducted by international organizations and the development of an international classification scheme for education systems (Mons, 2011). Accountability policies and instruments have gradually become key elements of educational reforms in these countries. New accountability systems have led to shifts in modes of governance, emerging and indirect modes of regulation, as well as the development of external assessment instruments and procedures (Power, 1996). These supra-national forces have thus brought more complexities into national educational systems – by introducing new ideas that often lead to ideological disagreements and generating significant conceptual shifts regarding school management and instructional practices. These conceptual changes are known to be problematic because in addition to being slow, they require sustainable school improvements throughout their implementation (i.e. training, resources) (Fullan, 2001). Although countries around the world are implementing similar accountability orientations into their education systems, national governments face pressure from a variety of different actors – private organizations, interest groups, and constituents – who also play a crucial role in the implementation process. Local political forces may be particularly influential and are thus important to examine when studying policy implementation (Cohen, 1990; Coburn, 2001; Fullan, 1991; Hill, 2001; Elmore & Fuhrman, 1995; Firestone, Fitz, & Broadfoot, 1999; Spillane, 2004). This suggests that there is a need to not only look at similarities and/or differences in educational reforms across countries, but

also to conduct more detailed analyses of how local actors understand and use instruments as well as new knowledge and ideas in their everyday work.

In this chapter, my aim is not to undertake a comprehensive review of the literature on policy implementation and the complexity of local, national, and global interrelationships at play in education systems, but to explore one key dimension of the implementation process: school actors' sense-making in regards to reform initiatives[1]. I focused on studies concerned with sense-making in policy implementation efforts in grades K through 12 in the USA. The chapter was intended to provide an introduction of the sense-making framework and its contributions to the policy implementation field to a less familiar French European community[2]. I sought to bring back school actors' agency into the discussion by suggesting how they may also struggle to understand policy demands, and not simply react and protect themselves from the policy environment. In other words, I intended to illustrate how the macro environment did not exclusively constrain and determine school actors' thoughts and action (Pozzebon, 2004). In so doing, I aimed to underscore the extent of school actors' agency through their sense-making and choices, showing how they remained committed to their work and students in the implementation processes, even in a high stakes policy environment. Introducing the sense-making framework, thus, involved looking into the different ways meanings shape the direction of policy implementation (Fullan, 1991).

I present a theoretical and empirical framework involving two important strands in the sense-making perspective: cognitive accounts and sociological accounts. While

[1] This chapter is an expanded version of an already published article. See : Dulude, E. & Spillane, J. (2013). L'introduction de la construction de sens dans l'implantation de politiques en éducation : apports et pistes de recherche. *Education et Sociétés*, 31, p.143-156.

[2] It was inspired by many discussions with some French-speaking Belgian colleagues. These discussions often focused on whether or not school actors' were simply resistant to expected changes, and develop tactical strategies to protect themselves from the policy environment.

implementation scholars tend to focus on either the individual or the sociological aspect of sense-making, I argue that the two bodies of literature are not mutually exclusive. In describing studies on the cognitive and individual aspects of sense-making, I briefly identify the individual variables that shape school leaders' and teachers' sense-making processes. I also pinpoint some of the contextual variables that influence school actors' sense-making regarding policy. In describing sociological accounts, I examine how different frameworks shed light on the social interactions among teachers and school leaders within schools, as well as their interactions with intermediate organizations (e.g. district administrators) and other non-system actors. For example, policies expand the role of some non-traditional actors such as business leaders, city mayors, consultants, universities involved in professional development, and reading coaches in system-wide efforts to support the implementation at the district and school level. In observing the sense-making process from different sociological perspectives, I explore how social interactions can create meaningful opportunities for school leaders and teachers to interpret and act upon policy demands. I conclude by showing the limits and insights that researchers could take into account in future studies that use the sense-making framework in the policy implementation field.

2.1 Sense-Making Research: A Retrospective

The sense-making framework has provided insightful evidence on the importance of meaning and the "*social construction of reality*" in shaping the direction of policy implementation (Fullan, 2001). This framework examines how people are actively engaged in the construction and negotiation of meaning in order to make clear for themselves (sensemaking) and others (sensegiving) complex, sometimes ambiguous or contradictory,

situations (Lessard & Carpentier, 2015), as they try to understand the connections among complex, unclear, confusing messages, and their situation (Weick, 1995). More recently, some authors have also shown how sense-making can occur even in mundane and daily activities (Coburn, 2001; Sleegers, Wassink, van Veen & Imants, 2009; Spillane, Diamond, Burch, Hallett, Jita & Zoltners, 2002). The focal point of analysis is to better understand how people organize their actions based on shared or negotiated meanings. This framework also emphasizes the equivocality of meaning that exists in the activities of the individuals or groups within an organization (Bruner, 1991; Hercleous & Barrett, 2001; Weick, 1995). In so doing, some scholars assume that there are multiple plausible meanings and responses that can be enacted by individuals within organizations. The sense-making framework raises the possibility that inaccurate perceptions, under some conditions, may lead to positive outcomes. In this perspective, it appears more desirable that people choose to respond to crisis and ambiguous events than thinking about accurate action. Some scholars suggest that this lack of accurate action becomes an issue only for short periods of time and with respect to specific issues (Weick, 1995).

The sense-making framework can also be understood as an entry point to illuminate actors' agency. The sense-making processes take into account both cognition and action as intertwined. In other words, these processes involve individuals' thoughts, or the ways they *bracket* ongoing experiences and *punctuate* the results in specific moments in time (Weick, 1995). These moments become crystallized, and serve to give meaning to their action. These meanings are either reinforced or diminished depending on the effect and the feedback they receive from other system and/or non-system actors. This process also involves some individuals' creative action, or in this case, conceptualized as the enactment of policy intent.

Based on their specific understanding of the situation, individuals come to materialize and put in action what they believe to be true. They come to act in such a way that their assumptions of reality become warranted. In other words, people create and find exactly what they expect to find. There are many ways in which action can affect meaning. Consequently, individuals set limits and opportunities. However, meanings do not always produce visible consequences in the environment. While individuals' responses to policy are constructed, shaped and reformulated and not simply robotic responses to policy demands, the outcomes do not necessarily represent a complete picture of the process that led to them. As suggested by some authors, individuals' agency manifests in the underlying micro-processes where they construct, make meaning, contest and deal with contradictions and attempt to understand accountability policy (Ball, 1993; Weick, 1995).

Applied to education, the introduction of the sense-making framework represented an important change in implementation studies. This line of work shed light on the role of culture and cognition in the policy implementation processes (Cohen, 1990; Spillane, 2002). Sense-making studies underscored the fact that pre-existing beliefs and practices shaped how school actors enacted policies. The first sense-making accounts enabled implementation scholars to illustrate how and why local variations can occur during policy implementation processes (Coburn, 2001, 2005, 2006; Spillane, 2002a, 2002b, and 2006). These studies have shown that local issues and school actors' responses go beyond resistance to change, as is commonly portrayed by previous conventional implementation accounts. Instead, it is crucial to understand not simply how these actors choose to respond to policy, but rather, how their understanding of new policy ideas shapes the nature of their response. School leaders' and teachers' sense-making processes can influence how and why a policy is implemented. They

can thus decide whether or not to take action, or how to act, based on their understanding of the policy message. In that sense, these studies stress how school leaders and teachers continuously construct meaning about policy messages in order to understand connections between the new policies' ideas and their environment. In this view, implementation is seen as a process of learning.

So far, sense-making studies in education have addressed implementation issues in regards to accountability policies and instruments, instructional policies and organizational programs. This literature includes a number of different definitions of sense-making. These definitions present different paradigms, as well as epistemological and ontological assumptions that offer different insights into how system actors understand the situation and construct a particular reality during the policy implementation process. The authors of the studies I reviewed use different definitions of sense-making and different epistemological stances depending on what stage of the policy implementation process they explored, as well as the methodologies they used (Weick, 1995). Implementation scholars who study sense-making have oscillated ontologically between interactionism and functionalism in their attempts to better understand people's everyday actions. The ontological oscillation - the moment at which scholars study different actors' action (district administrators, school leaders and teachers) - informs the epistemological and methodological approaches they adopt, and helps to better understand the multifaceted aspects of sense-making processes. The study of "meaning" and "construction of reality" is influenced by many strands of micro-sociology and psychology. In the field of policy implementation, the study of meaning, more specifically sense-making, has focused on the different means used by school actors to create their social reality and organize their practices internally. Implementation scholars have used different

lenses such as school actors' cognition, discourse, social interactions and practices to understand the role of meaning. While the use of different frameworks enables scholars to explore the multifaceted aspects of sense-making processes, the theoretical distinctions are not always defined as such in the literature. In so doing, the different perspectives have also created conceptual confusion. To reduce this confusion, I provide a brief overview of what these different frameworks imply for the study of meaning, also called "interpretative processes". The table below includes the focal point of analysis, its implications for understanding the processes and its analytical tools.

Table 1. The different frameworks for studying "meaning" and its processes

Symbolic Interactionism (Schmidt & Datnow, 2005;Weitz White & Rosenbaum, 2008)	**Frame Analysis (Coburn, 2006; Coburn, Bae & Turner, 2008)**	**Cultural Sociology (Anagnostoupoulos & Rutledge, 2007)**	**Social Cognition (Drake, 2006; Spillane, Diamond, Burch, Hallett, Jita & Zoltners, 2002)**
Focal point of analysis: the examination of actions, objects and persons acquiring meaning through interactions (Akoun & Ansart, 1999)	*Focal point of analysis*: the examination of problem framing and how collective frames are created in social interactions.	*Focal point of analysis*: the reciprocal relationship between the schemas of action and interpretation that individuals employ in particular settings, and the distribution and control of resources and opportunities.	*Focal point of analysis*: the examination of individuals' cognition (worldview or filtering mechanisms), and the social contexts – including interactions
The process of *meaning-making* involves how individuals "act toward things on the basis of the meanings they have constructed for them. Meanings are modified through interpretative process used by people involved in social interactions. Each individual makes meaning of her/his world in a different way often depend upon many factors*"* (Schmidt & Datnow, 2005, p. 950*)*.	The process of *framing* involves how "frames are invoked, countered and reframed until the negotiation results in a way of framing the problem that allows individuals with diverse worldviews and interests to connect with it" (Coburn, 2006, p. 371). In other words, how a problem is presented to actors (called "the frame") influences the choices they make about how to process that information.	Rather than only focusing on individuals, the social process of *schemas of action* views them as part of the *cultural tool kit* that they draw on as they engage in continual negotiations of the policy environment, their school context, and the complexities of their work. This process includes the negotiation around *schemas* and *resources* which manifests the opportunities for choice and variation in *cultural tool kit* that arise as individuals act and interact within multiple and overlapping institutional settings.	The process involves how "individuals must use their prior knowledge and experience to notice, make sense of, interpret, and react to incoming stimuli—all the while actively constructing meaning from their interactions with the environment, of which policy is part" (Spillane et al., 2006, p.49).
Meaning: is a social product responsive to contexts inside	**Frames**: "schemata of interpretation" that	**Cultural tool kit**: "the symbols, stories, rituals and	**Identity**: is shaped by each individual's definition of

Symbolic Interactionism (Schmidt & Datnow, 2005;Weitz White & Rosenbaum, 2008)	Frame Analysis (Coburn, 2006; Coburn, Bae & Turner, 2008)	Cultural Sociology (Anagnostoupoulos & Rutledge, 2007)	Social Cognition (Drake, 2006; Spillane, Diamond, Burch, Hallett, Jita & Zoltners, 2002)
and outside people themselves (Blumer, 1969). **Situation :** defined by individuals' perception; their subjective perceptions are projected into reality and consequently materialized; individuals act based on their definition of the situation and adjustment of these definitions to those of others	individuals or groups use to "locate, perceive, identify, and label" events and phenomena (Goffman, 1974, p. 21) **Diagnostic framing**: involves defining problems and attributing blame. **Prognostic framing**: involves articulating a proposed solution to the problem, thus putting forth particular goals and suggesting tactics for achieving those goals **Frame alignment**: the action taken by those who produce and invoke frames as an attempt to connect these frames with interests, values and beliefs of those they seek to mobilize. **Resonance**: motivates people to act, or to join in support of a policy solution **Counterframes**: Ways of framing the problem are challenged as others put forth alternative portrayals of the situation or alternative paths to pursue, often with alternative implications for roles, responsibilities, and resources	worldviews which people may use in varying configurations to solve different kinds of problem" (Swidler,1986, p.273) **Schemas:** the metaphors, scripts, and principles of actions that frame how people interpret and make sense of the social world, animate and inform the distribution, use, and value attached to resources. **Resources**: schemas must be validated by resources.	self and their social role, the social image they want to project, and the organizational image on self in specific settings (Weick, 1995). How they construct meaning about puzzling events will depend on who they are, how they perceive others will perceive them and how they feel their needs are being fulfilled. **Enactment**: understood as the way people act and create the circumstances and events which surround them. Based on their specific understanding of the situation, they come to materialize and put in action what they believe to be true. They set limits and opportunities.

The next sections provide further details about the contribution and implications of these different frameworks in the study of sense-making.

2.2 Cognitive Framework: Contribution and Implications

Many implementation scholars have adopted the perspective of cognitive accounts to study sense-making and emphasize the ways in which individuals' prior experience, beliefs and knowledge impacts their understanding of a given situation. According to Spillane, Reiser

& Gomez (2006), sense-making refers to the process through which "individuals must use their prior knowledge and experience to notice, make sense of, interpret, and react to incoming stimuli—all the while actively constructing meaning from their interactions with the environment, of which policy is part" (Spillane et al., 2006, p.49). These authors employ various ideas such as "notice or select information", "make meaning", "interpretation", "act and react", and "environment", all of which carry different philosophical and theoretical assumptions. For instance, "to notice or select information" comes from a cognitive perspective where the individuals process information to understand external information in their environment. This process focuses mainly on individuals as receptors and interpreters of specific information. The main interests of this perspective are actors' cognitive processes, including their actions and the meanings of these actions in social practices, and the reflexive processes that may result from these actions (Akoun & Ansart, 1999). Sense-making studies have provided insightful findings on how school leaders and teachers continuously construct meaning about policy messages and attempt to understand connections between the new policies' ideas and their environment. Sense-making being first and foremost an individual experience, some studies focus on how school actors' existing cognitive processes, or worldviews, affect their sense-making process (Coburn, 2001; Drake, 2006; Hill, 2001; Spillane, Reiser and Reimer, 2002). These studies demonstrate how school leaders and teachers as individuals make sense of a given policy message and the different ways in which principals and teachers make sense of policies' goals. Scholars have identified variables such as professional identity, professional biographies, beliefs, past experiences, prior knowledge and emotions as mediating this process (Drake, 2006; Hargreaves, 2005; Schmidt & Datnow, 2005; Sleegers, Wassink, van Veen, & Imants, 2009). These studies primarily explore what

principals and teachers understand themselves to be responding to, the individual variables that affect how they make sense of policy messages and how their understanding generates different responses to change. Some results indicate how teachers actively engage in the sense-making process in order to respond to policy demands and remain committed to their jobs.

School leaders have also been described as the primary sense-makers. They are required to create their own vision about the meaning of the policy to "alter or guide the manner" in which teachers make sense of new policies (Weick, 1995). School actors then construct different and sometimes conflicting ideas about practice from the same policy. Moreover, their understandings may not be closely aligned with the intent of policymakers for various reasons. Various studies have documented how different principals and teachers, sometimes working in the same school or school district, construct different and sometimes even conflicting understandings of the implications of the same policy for practice (Cohen, 1990; EEPA, 1990; Firestone, et al., 1999; Haug, 1999; Hill, 2001; Spillane, 1996; 1998; 2004; Vesilind & Jones, 1998). These studies have demonstrated how school leaders' interpretations of either external policy demands or internal problems shape how policy messages are conveyed to teachers, and determine the nature of their decisions and the course of action taken in their schools. These results suggest that school leaders' sense-making has an impact on their decision-making, daily actions and the improvement strategies they use in their schools. Hence, meaning becomes a powerful tool for mobilizing both school leaders and teachers into action.

2.2.1 Cognitive Framework and Social context

Some studies have shown how contextual variables shape school leaders' and teachers' sense-making processes. Anagnostopoulos and Rutledge (2007) illustrate how two principals'

uncertainties and lack of understanding of the probable causes of their respective schools' failure made it difficult for them to lead teachers' sense-making and practices. These principals either failed to explain why their schools were failing or failed to comprehend the impact of a high poverty context on students' low scores. As a result, the principals had difficulty enacting the corrective actions necessary for obtaining satisfactory improvements. Similarly, Dumay (2009) stresses the role of the principal's interpretation in leading teachers' instructional efforts. The author notes how the principal did not believe that teachers should take into account the students' socio-economic background as an explanation for low-performance. Instead, he redirected teachers' attention toward improving their teaching practices rather than understanding the social and cultural history of the environment. Louis, Mayrowetz, Smiley and Murphy (2009) contend that trust and risk in schools are important factors that can cause principals and teachers to ignore or try to make sense of policy implementation efforts. These authors reveal that high levels of trust are likely to positively amplify how teachers make sense of the design characteristics. They also indicate that relationships of trust between principals and teachers built on the encouragement for risk and change in classroom instruction influences teachers' willingness to take responsibility for implementation. Contextual variables such as the school's probation status, external pressures to improve student outcomes, the principal's years of experience, the demographic characteristics of students, the relationship between school leaders and teachers – including trust and risk, and their participation in other kinds of formal and informal professional networks are a few of the variables that shape how school leaders and teachers make sense of and act upon external demands (Anagnostopoulos & Rutledge, 2007; Coburn, 2006; Spillane, Diamond et al., 2002).

2.3 Sociological Frameworks: Contribution and Implications

A number of scholars have supplemented the cognitive perspective of sense-making with sociological theories, drawing in particular on new institutionalism, frame analysis, symbolic interactionism and cultural anthropology (Anagnostopoulos and Rutledge, 2007; Coburn, 2001, 2006; Weitz White & Rosenbaum, 2008). Departing from the cognitive accounts that examine the influence of school leaders' and teachers' filtering mechanisms and their impact on policy and practice, these studies examine the social dynamics of negotiation under which teachers and school leaders coordinate their actions. Drawing from different sociological frameworks, implementation scholars have used concepts such as diagnostic and prognostic framing, schemas and social skills to study the interpretive processes of school actors. They have supplemented the analysis of policy implementation by attending to the role of authority, power, status, and legitimacy mechanism. In so doing, they have explored how different actors negotiated, contested and (re)-shaped policy meanings through their interactions in different contexts over time (Coburn, 2006; Weick, 1995). They have stressed how different meanings given by certain actors dominate over others in the social sense-making process depending on the context, as well as an actor's authority, legitimacy or role in the school (Coburn, 2006; Schmidt & Datnow, 2005). Results have shown, for instance, how school actors coordinate their actions on the grounds of shared, negotiated and/or contested meanings. They also point out how school leaders and teachers do not always coordinate their actions by sharing meanings or consensus. The coordination of local actors' action may also result from conflicting views of ambiguous meaning (Weick, 1995). Results have also highlighted how sense-making is shaped by different types of social interactions (formal and informal meetings), depending on the individual's role, power, authority and/or status in these

interactions (Anagnostopoulos & Rutledge, 2007; Coburn, 2001, 2006; Weitz White & Rosenbaum, 2008; Schmidt & Datnow, 2005). These researchers have explained how different individuals play unequal parts in this sense-making process, and how some meanings overlap with others in certain situations (Coburn, 2006; Schmidt & Datnow, 2005). Coburn (2006) for instance incorporates the role of authority into our understanding of the social process of sense-making during implementation, particularly when there are differences of interpretations among school actors with different roles and positions of authority.

2.3.1 Social Interactions in Schools

Various sense-making studies have informed us on how school leaders guide teachers' sense-making to initiate and deploy different school improvement strategies (Coburn, 2001, 2006; Spillane, Diamond et al., 2002). For instance, Coburn's (2001) study of collective sense-making demonstrates how the nature of social interactions among teachers and with the principals shaped how they came to understand the meaning of a policy message. The author illustrates how at least two variables mediated teachers' sense-making processes: the type of relationships the teachers have in the school (with whom he/she talks and the context) and the nature of these conversations (allows or does not allow for deep reflections that lead to teachers' greater commitment) (Coburn, 2001). In this case, school actors not only learned from one another, but these relationships also allowed them to observe and clarify points that were not visible otherwise (Spillane et al., 2002). In another study, Spillane, Diamond et al. (2002) show how some school leaders interpreted test scores in terms of what teachers were doing in their classrooms: the content they were covering and/or the ways in which they taught this content. They used standardized tests as leverage to motivate instructional improvement. For instance, school leaders would use test score data to focus teachers' efforts in certain areas

of instruction. This strategy also served as a way to preserve school leaders' authority and legitimacy in relation to school staff. Coburn (2006) demonstrates how a principal can influence how teachers direct their attention toward specific issues in the school and guide them towards potential solutions. For example, the principal in this case study had more influence than other local actors in problem framing, but this was contingent on his ability to make sense of the problem in a way that would resonate with a sufficient number of teachers. In addition, school leaders who held authority and resources were able to create powerful points of reference with which teachers made sense of policy initiatives and practices (Coburn, 2006).

2.3.2 Social Interactions with District Policymakers

Several studies have underscored the influential role of district accountability policies in compelling principals' sense-making towards certain resources and instructional priorities (Anagnostopoulos & Ruthledge, 2007; Spillane, Diamond, et al., 2002; White Weitz & Rosenbaum, 2008). In these studies, the principals altered school improvement initiatives, reallocated resources, and emphasized the need for instructional change in order to comply with accountability policies. However, how these principals reallocated resources and efforts varied significantly according to their primary assessment of both school's needs and reasons for failure. In one school, school leaders used test score data to gauge performance and concentrated their efforts to improve classroom instruction on literacy and mathematics. The use of test scores resulted in a change in classroom content, and/or the ways in which teachers taught that content (Spillane, Diamond et al., 2002). In another case, one principal used the district's probation policy as a catalyst to extend his instructional authority. In so doing, the principal significantly reallocated time so that teachers could attend mandatory weekly

workshops (Anagnostopoulos & Rutledge, 2007). He also included teachers in the planning of workshops and awarded them "instructional leadership commendations" for their efforts. Rosenbaum & Weitz (2008) examine how meanings had been altered by high-stakes policies in one specific school. These authors uncover how these policies created new meanings and labels about teachers and students who did not comply with the principal's new priorities. For instance, they demonstrate how the meaning of a "good teacher" had changed towards the individual who focused their energy and resources on near pass level students. They also illustrate how other teachers who did not comply with this priority were stigmatized by their peers and considered as "wasting time" on already adequately performing students.

What stands out from these studies is how district policies figure prominently in school leaders' priorities, even if the school was not threatened by closure (Anagnostopoulos & Rutledge, 2007; Spillane, Diamond et al., 2002; Weitz White & Rosenbaum, 2008). High stakes initiatives shifted these principals' focus and priorities on instructional improvements in specific subject matters. These three studies demonstrate how the Chicago Public School district's accountability policies focused school leaders' sense-making on literacy and mathematics classroom instruction. However, these results may very well vary in other districts. This suggests two areas that warrant further research: 1) looking at how the district directs their priorities in certain directions; 2) examining district administrators as key actors in the school leaders' sense-making processes.

2.3.3 Social Interactions with Non-System Actors

Several studies underscore school leaders' position as intermediaries between their schools and the external environment, which puts them in an ongoing and sometimes conflicting process of sense-making and negotiating (Coburn, 2005; Spillane, Diamond et al.,

2002). School leaders are often left with the difficult task of making sense of what is being asked, and responding rapidly and efficiently. These studies illustrate how school leaders attempt to reconcile external demands all the while depending on teachers to achieve the expected outcomes. Similarly, Coburn (2005) stresses the role that school leaders played in shaping how teachers came to understand and interpret the meaning and implications of new policy ideas. These leaders prioritized, selected and responded to some innovations they judged appropriate for their school, but at the same time, applied mandatory policies. Therefore, on the one hand, school leaders had some flexibility to make instructional choices based on local needs, while on the other hand, they remained obligated to comply with external standards and tests. School leaders also gave teachers access to certain professional development providers, purchased curriculum materials that emphasized one approach rather than another, or intensified pressures to guide and support teachers.

Other studies stress the influential role of certain non-system actors (university partners, consultants, parents) on school actors' sense-making processes (Coburn, 2005; Coburn, Bae and Turner, 2008; Weitz White and Rosenbaum, 2008). System and non-system actors (e.g. community coalitions, organization advocacies, universities and families) adopt different roles during the implementation process, and may influence school actors' sense-making processes. Weitz, White and Rosenbaum (2008) underscore how experts advised school actors in low-performing schools to concentrate their efforts on children near the pass level. In so doing, these experts shaped how principals reallocated school resources for students near the pass level and diverted them away from children far below or safely above. As a result, science and history instruction were cancelled in favor of concentrating resources only on subject matters that were tested. Coburn (2005) highlights how academics, state

representatives and professional development providers connected teachers with policy messages in consequential ways. They tended to have more influence on classroom practices depending on how they connected teachers to the policy messages. The author identifies at least three dimensions – mechanism (how teachers learned about policy messages), content (degree of depth and closeness to the classroom) and intensity (brief to regular encounters) – that shaped teachers' responses to policy ideas. Coburn, Bae and Turner (2008) pay attention to the underlying processes of negotiation between university facilitators and district administrators – more specifically, how authority and status shaped these interactions. Results have shown that the quality of advice and assistance and the nature and dynamics of the relationship between internal actors and external partners may lead to instructional improvements, if the university facilitators gain credibility to persuade those who have the authority to move in particular directions. This application of these different sociological frameworks led to a new line of work in policy implementation.

2.4 Sense-Making from an International Perspective

Outside of the United States, scholars have also examined the sense-making processes inside schools (Dumay, 2012 in French-speaking Belgium; März & Kelchtermans, 2013 in Flanders; Sleegers, Wassink, van Veen, & Imants, 2009 in the Netherlands; Thomson & Hall; 2011 in England). Drawing on some analytical tools from European sociologists, they have used concepts such as power, zones of uncertainty, social practice and micropolitics to illuminate how sense-making processes are mediated by structures, and not solely in persons. These scholars have showed how teachers' sensemaking involves mastering organizational rules and actively attempting to gain or maintain power and legitimacy in their working environment. They have stressed that teachers prioritize conformity with expected changes as

symbolic reponses to these changes. These symbolic responses can be partly explained as a way to protect themselves from criticisms of their instruction.

Using Crozier's concepts of "power" and "zone of uncertainty", Dumay (2012) demonstrated how the new collective definition and interpretation of issues related to low-performing students are collectively framed among teachers in a French-speaking Belgian school. The author suggested that these zones of uncertainty represent an important source of power because teachers who master organizational rules, are able to solve the local issues. In so doing, teachers, who are seeking to gain or maintain the power to define their practices and working conditions, develop tactics to guide the problem framing processes in their favor. In England, Thomson and Hall (2011) used sense-making as a component of social practice. The authors illustrated how one school's meta-narrative of "being a family" offered cultural and social resources for making sense of professional and organizational identity. They showed how this meta-narrative, historically embedded in past educational ideologies, provided a set of values and ethical principles to guide their sense-making and decisions about the direction and justification for change. The authors concluded that this meta-narrative became the legitimate local source of action for school actors over the external accountability demands in regards to instruction and curriculum. In Flanders, März and Kelchtermans (2013) used the role of micropolitics to illustrate how teachers developed tactics to negotiate, influence and control their working conditions, without completely rejecting the mandated curriculum. The authors indicated how teachers' cultural-ideological interests and motives can determine whether they were involved in the sense-making/learning process of new instruction or they were motivated by strategically responding to new normative beliefs about the reformed curriculum. They stressed that this distinction may explain why the curriculum reforms effort

have had little impact on instructional changes. Sleegers, Wassink, van Veen, & Imants (2009) examined how two principals' sense-making shaped their strategic choices and influenced their leadership practices. The authors demonstrated how the specific professional cultures and communities in which the principals evolved, and their individual past life histories shaped how they framed problems in their respective schools. They suggested that these differences can be traced through an investigation of the principals' beliefs and values in their professional careers.

2.5 Limits

Despite their contributions to our understanding of policy implementation in education, sense-making studies present some theoretical and methodological limits. From a theoretical point of view, these studies have yet to show the complexity of the sense-making process that school actors deal with on a daily basis in their schools. Considering the intersection of exogenous and internal influences of a broad range of actors, we know little about the complexity of sense-making processes inside schools. This complexity of sense-making unravels in the various interpretive and influential processes – including the tensions, contradictions and contestations- that go on inside schools on a daily basis. More specifically, how different actors shape school leaders' and teachers' sense-making and steer them in certain, sometimes opposing directions. While many sense-making studies have mainly paid attention to principals and teachers or the role of certain external actors, little attention has been given to how school actors interact and negotiate with other system actors (e.g. mid-level administrators, curriculum specialists (or educational consultants), inspectors, parents) involved in the policy implementation process. These studies have yet to explore when, why

and how school actors come to understand, negotiate and choose to respond or not to conflicting and sometimes contentious demands in different contexts. In addition, most sense-making studies have focused on a specific aspect such as policy, new instructional program or specific issues within schools. However, little is known about how school actors make sense of multiple and simultaneous policy demands and instruments, instructional programs and different innovations. Beyond the accountability component of a policy, how and why school actors prioritize certain demands, instruments and ideas over others. In addition, little is known about how school actors' sense-making is mediated by multiple overlapping contexts (i.e. school improvement meetings, professional development activities, professional networks and parent associations) and internal conditions (i.e. school characteristics, students, and teachers).

From a methodological standpoint, the sense-making framework faces some challenges, mostly in the ways to apprehend and operationalize the processes of "making sense" in school actors' cognition and enactment. Studying the sense-making processes, thus, requires a rigorous and demanding methodological approach (Lessard & Carpentier, 2015). The examination of these processes often involves longitudinal case study through repeated interviews with the same actors over time, different observations of formal and informal meetings and classroom instruction in order to identify organizational and/or instructional issues related to policy. This represents a challenging task for researchers in both establishing relationships among a dense, rich and varied dataset and providing a deep understanding at play over time and spaces (Lessard & Carpentier, 2015). Some scholars have proposed interesting methodological tools such as life story protocol, professional biographies and narratives to overcome the challenges of documenting the "sense-making" from an individual

perspective. For instance, the life story interview protocol was used by researchers to describe key events in teachers' lives that enable identifying the turning points in their mathematic experiences. Most studies have used a case study approach, from a single case of one group of actors to multiple school cases. They mostly focused on one group of actors such as school leaders or teachers, or the relationship between the two. While recent work has attended to the role of district administrators or university partners, these studies have rarely focused on the role of multiple actors in conducting local implementation. Few studies have taken into account the multiple sources of internal and external influences and relationships between school actors and other system actors that shape the sense-making processes.

2.6 Future Insights

Sense-making studies have offered new insights on how and why school leaders and teachers make sense of, and choose to act upon certain policy demands. Some studies have demonstrated the influence of school leaders' and teachers' cognition as a starting point to make sense of policy demands. Other studies have highlighted the role of school leaders in guiding teachers' sense-making and mobilizing them towards the desired changes. Some studies have also considered the importance of social interactions, roles, relations of power, authority, and status and legitimacy in the negotiation, contestation and transformation of meanings that shape policy implementation processes. Findings from sense-making studies also suggest that district administrators and school leaders are able to create powerful points of reference, use policies as leverage and direct teachers' attention to specific issues (Coburn, 2006; Dumay, 2009; Louis et al., 2009; Spillane, Diamond et al., 2002). According to these authors, what makes the actors skillful is their ability to make sense of specific issues in their

school, and to make them resonate with teachers' experiences. Thus far, the explanations have focused mainly on strategies employed by school leaders, and little on how and why they select certain strategies over others. Hence, there is only a partial definition of what constitutes a skillful school leader.

2.7 The Contributions of this Dissertation to the Framework

This dissertation makes a contribution to a more recent line of work in implementation studies that view implementation as a process of both power and learning. The studies in this line of work examine the underlying processes of interpretation, influence and persuasion that shape implementation (Coburn, Touré, & Yashamita, 2009; Lowenhaupt, Spillane, & Hallett, forthcoming). For instance, Coburn, Touré, & Yashamita (2009) explored how district administrators used evidence to inform their decisions about instruction and curriculum. These authors illustrated the interpretive processes by which problem definitions emerge and change in the course of interaction. The authors attended to the role of persuasion in framing and solving issues. They explored how district administrators used various forms of evidence (i.e. research evidence, data or general claims) to justify, persuade, and bring legitimacy to deliberate about policy solutions. They stressed how the rhetorical strategies had limited impact on their preexisting views. Lowenhaupt, Spillane, & Hallett (forthcoming) examined the role of institutional logic to underscore how accountability proposes a fundamental shift in the institutional logic in education, changing considerably its conceptions and values. The authors analyzed how emerging accountability logic interacted with the more established and taken for granted logics of local autonomy and professionalism in schools. They also focused

on the role of talk as an important aspect of sense-making, arguing that through talk, school actors negotiate the local meaning and practical relevance of the emerging logic.

In Chapter 3, I explore the social processes that shape school actors' strategic responses to high stake state and district policies, specifically in terms of instruction and mandated curriculum. I attend to the role of interpretation (sense-making) and persuasion in shaping these processes through the analytical lens of actors' rhetorical strategies. From an interpretive standpoint, I use the concept of schemas to examine school leaders' and teachers' deep values, beliefs and prior knowledge about teaching and learning mathematics. In so doing, I illustrate how school leaders and teachers make sense of the mandated curriculum in regards to high stakes policy in the course of interactions. I also look at how school actors and different leaders use rhetorical strategies to illustrate action or enactment of the schemas about teaching and learning mathematics. From a persuasion standpoint, the examination of rhetorical strategies allows to further explore the role of persuasion in pressing school actors to implement the mandated curriculum. For instance, school leaders' and teachers' rhetorical appeal of pathos reflected their persistent beliefs, values and concerns about teaching the reformed mathematics. I illustrate how district leaders and university partners invoked different resources to appeal to school actors' emotions, logic and expertise to advise, press and/or persuade them to focus their efforts on specific content and students.

In Chapter 4, I explore how the bureaucratic and professional accountability forms influence school leaders' and teachers' efforts to implement one new routine – the presentation of best practices- related to language arts instruction. I focus on the role of organizational routine as a social structure that shapes how school leaders and teachers transform, reproduce or challenge some aspects of language arts instruction. In so doing, I

look at the structural factors of one routine that can either support or constrain instructional changes. From a power standpoint, I examine how the structural factors influence and are being influenced by school actors' sense-making and enactment of different accountability forms related to language arts instruction. For instance, these structural factors can shape the focus on administrative control, compliance and conformity over professional judgment, improvement of instructional skills and knowledge. From an interpretive standpoint, I also attend to sense-making as a mediating process that shapes the ostensive and performative aspects of organizational routines. The sense-making framework enables uncovering how school actors and other actors make sense of and enact the meanings of two accountability forms in one routine. More specifically, I examine how meanings are discussed, negotiated, and/or contested among school leaders, teachers and other leaders. The performative aspect also allows observing the enactment of these meanings in the course of interaction in a routine.

CHAPTER 3 - HIGH STAKES POLICY AND MANDATED CURRICULUM: THE SOCIAL PROCESSES THAT SHAPE SCHOOL ACTORS' STRATEGIC RESPONSES

Issues related to policy have significantly shifted in recent decades, as increased accountability has become a prominent feature of curricular reforms. In 2011, 37 U.S. states rewarded school staff with financial incentives based on high or increased student performance, 36 states provided assistance to low-performing schools, and 32 states sanctioned school staff based on low-performing students (Quality Counts, 2013). High stakes policy exerts tremendous pressure on districts and schools to improve student performance through incentive systems (Hall & Ryan, 2011; Loeb & Strunk, 2007). These policies send powerful messages about the importance of some subject matters over others – circumscribing skill and knowledge requirements. As a result, district officials and school leaders often employ curricular reform initiatives as a means to raise students' performance in the subject matters targeted by such policies. Policy thus compels school actors to focus resources on curriculum and assessments, professional development, and data-driven decision-making (Anagnostopoulos & Ruthledge, 2007; Honig & Hatch, 2004; Spillane, Diamond, et al., 2002; Weitz White & Rosenbaum, 2008).

Some studies have underscored how district pressure figures prominently in school leaders' priorities, even when schools are not threatened with closure (Anagnotopoulos & Rutledge, 2007; Spillane, Diamond et al., 2002; Weitz White & Rosenbaum, 2008). High stakes policy have led to a shift in principals' actions in schools. This takes many forms, such as the reallocation of resources away from particular students and towards literacy and mathematics instruction. Other scholars have shown that state requirements for standardized

testing exert a significant amount of pressure and influence over instruction and curriculum (Au, 2007; Chiang, 2009; Jacob, 2005; Rouse, Hannaway, Goldhaber, & Figlio, 2007). They demonstrated how school leaders and teachers respond strategically in order to meet state requirements quickly and efficiently. Some of the instructional strategies included increasing the number of pass level students in special programs, more time teaching tests subjects, more time teaching low-performing students, more time spent using teacher-centered pedagogy and more time spent teaching core subjects. Some schools ended all teaching activities in science and history to spend more time teaching literacy and mathematics and to teach to test-specific items. These studies suggest that school leaders and teachers respond strategically to state and district policies and develop tactical means to raise student scores quickly and avoid probation at all costs – sometimes at the expense of the quality of instruction and quality of experience for both students and teachers. Findings suggest two important foci for further research: 1) how local contexts influence school leaders' and teachers' instructional focus; and 2) how different actors influence and persuade teachers to focus on specific instructional efforts while ignoring others (Coburn, & Woulfin, 2012). We know little about how high stake pressures operate in day-to-day interaction and decision-making within schools and how these lead to school leaders' and teachers' strategic responses. These studies indicate that it is crucial to understand not simply how school leaders and teachers choose to respond to high stake policies, but how they understand the policy messages about teaching practice (e.g. content, standards, etc.) in the first place – in other words, what they understand themselves to be responding to - and also the legitimacy of policy as detailed in Spillane and Anderson (in press).

In this article[3], I aim to better understand the social processes that shape school actors' strategic responses to high stakes policy, specifically in terms of the mandated curriculum and instruction. I use the particular case of a mathematics curriculum reform. Mathematics as a high stakes subject matter allows us to examine how leaders attempted to influence and persuade school actors to make instructional changes in their responses to high stakes tests. More specifically, I explore different situations where school leaders and teachers argued with district leaders and university partners over the statements they made to persuade them to implement a new mathematics curriculum so as to raise test scores in a low-performing school. I employ rhetorical argumentation analysis in order to explore how school leaders mobilized different resources in their rhetorical appeals (i.e. logical, emotional, and authoritative appeals) that created different opportunities and constraints for them in the reinterpretation and implementation of curriculum and instruction. By analyzing the social processes of argumentation that shaped school leaders' and teachers' strategic responses, I show that 1) school leaders and teachers did not simply reject, resist and/or conform to the reform curriculum, but struggled to understand what were the curriculum ideas involved for teaching and learning and what these entailed for their classroom practices. In so doing, they repeatedly made emotional appeals illustrating how curriculum and instructional changes provoked conflicts between their more established moral and ethical responsibilities they felt towards their students and the new curriculum ideas that they understood to be too advanced for the students. I also demonstrate that 2) school leaders and teachers mobilized policy as a resource that enabled them to make logical and authoritative claims in their attempts to clarify conflicts between new curriculum ideas and their implicit schemas. In analyzing rhetorical

[3] This chapter is currently "under review" for publication in *Educational Policy*.

argumentation, I make two major contributions to the literature on high stakes policy and mandated curriculum. First, studying argumentation is key in understanding the ways in which school leaders and teachers react, assert their claims, and position themselves in relation to high-stakes policy and mandated curriculum. It also sheds light on how participants advise, press and/or persuade school leaders and teachers to focus their efforts on specific content and students. In addition, the rhetorical appeals that participants use to coax and convey different policy messages provide a window into how different topics are negotiated, debated and/or refuted.

3.1 Theoretical Anchors: Rhetorical Argumentation, Schemas and Resources

I begin by situating this study within the field of policy implementation and rhetorical analysis. A rhetorical analysis allows us to explore the social processes of argumentation that shape school leaders' and teachers' strategic responses to the implementation of mandated curriculum in regards to high stakes policy. I pay close attention to school leaders' and teachers' statements about the reformed curriculum and instruction. While proposing different ways to implement the reformed curriculum, participants provoke argumentation that lead to consensus, disagreement, and contestation between school leaders, teachers and other participants (i.e. district leaders, university partners). A rhetorical analysis focuses on the use of argumentation as a means of communication that allows participants to underline what they want to say (Crusius & Channell, 2010). In this perspective, argumentation is understood as a series of statements (i.e. truthful, plausible or acceptable declarations) and their justificatory relationships (i.e. how they support or justify one another) (Jacobs, 2006). Rhetorical appeals consist of the different strategies a participant uses to communicate a message to an intended

audience (Kock, 2008; Heracleous & Barrett, 2001). I examine three types of rhetorical appeals: logical (logos), emotional (pathos) and authoritative (ethos) (Jacobs, 2006; Lowenhaupt, 2014; van Eemeren, Jackson & Jacobs, 2011). Logical appeals designate how a participant uses proof, facts and/or evidence to convince the intended audience of the rational and intellectual foundation of the statements. Emotional appeals describe the way a participant uses figurative language, stories, anecdotes, and positive or negative emotions to provoke a reaction from the intended audience (Kock, 2008). Authoritative appeals refer to authority figures, experts, and policies – including texts – to persuade the intended audience of the statements' authority and/or force, and of the speakers' qualifications (Jacobs, 2006; van Eemeren, Jackson & Jacobs, 2011). The three types of appeals are not mutually exclusive and may overlap during argumentation. The use of rhetorical appeals sets the tone of argumentation among participants.

3.1.1 Schemas and Resources

I frame rhetorical argumentation as one element of the general social structure. Framing rhetorical argumentation as part of the social structure enables me to identify local beliefs and repeated patterns of interactions that shape school leaders' and teachers' understanding of reformed curriculum and instruction. Attending to how school leaders and teachers use rhetorical argumentation as a means of communication allows me to explore their schemas about teaching mathematics and how they mobilized logical, emotional and/or authoritative appeals to influence and persuade the intended audience of the importance of their arguments about the curriculum textbooks, standardized test scores, etc. In so doing, I observe how school actors' schemas, which are sometimes implicit, along with their resources,

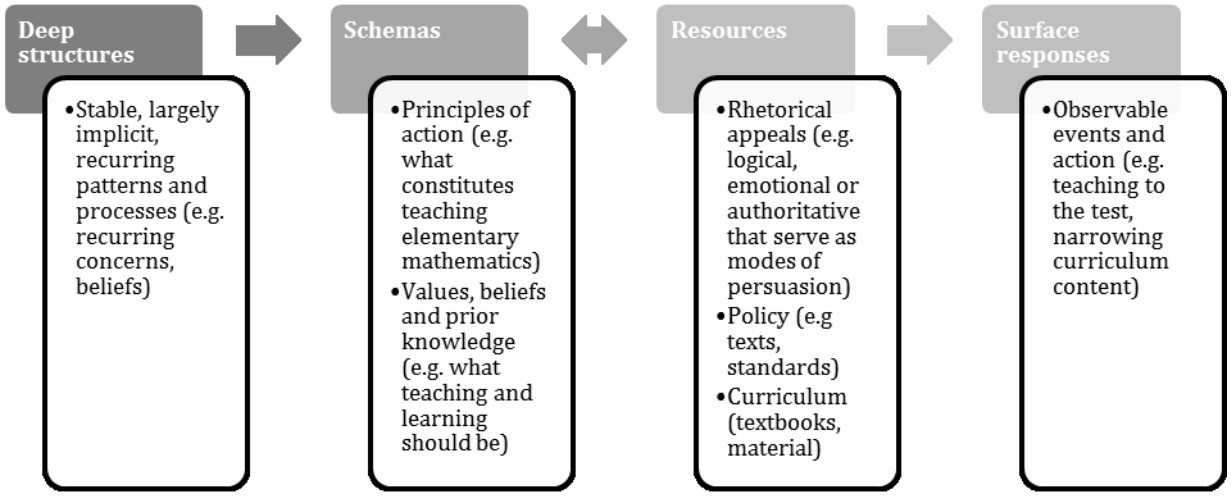
structured their understanding and interaction with district leaders and university partners (Sewell, 1992).

Schemas refer to the principles of action that frame how individuals interpret the social world and inform the use and value attached to resources (Anagnostopoulos, & Rutledge, 2007; Sewell, 1992). For instance, how school leaders and teachers view their students may inform their decisions as to which instructional resources to use and which ones they value most to teach mathematics. In other words, these schemas encompass school leaders' and teachers' deep values, beliefs and prior knowledge about teaching and learning mathematics, which in turn, influence the manner in which they respond to their environment and structure their arguments for or against curriculum reform. In turn, these schemas both reflect and reveal elements of the social structure.

The resources that we are referring to include incentives, money and texts, and can be seen as media that may hold the *"transformative capacity"* of being interpreted in varying ways depending on who is doing the interpreting. Thus, such resources can empower different participants who have different schema in different ways (Cohen, Moffit & Golding, 2007; Giddens, 1984; Sewell, 1992). For example, teachers' capacity to reinterpret and mobilize policy texts and decide which aspects are mandatory and which aspects are best left to their professional discretion. In other words, schemas influence how individuals interpret or use resources available to them in their environment. In return, the use of resources by different actors works to validate, reproduce or challenge existing schemas (Anagnostopoulos, & Rutledge, 2007; Sewell, 1992). The content of participants' arguments reveals their implicit schemas about teaching and learning mathematics. Through argumentation, participants' capacity to reinterpret and mobilize different types of resources (e.g. standards, tests,

mathematical ideas, principles) can create opportunities for modifying existing schemas and shape participants' strategic responses to the implementation of reformed curriculum (Anagnostopoulos, & Rutledge, 2007; Giddens, 1984; Sewell, 1992).

Figure I. Exploring Schemas and Resources by Rhetorical Argumentation Analysis



Sources: Heracleous and Barrett (2001); Sewell (1992)

I chose rhetorical argumentation analysis because it allows us not only to shed light on how school leaders' and teachers' schemas influence their use of resources, but also to observe how they are being persuaded to respond strategically to high stakes policy. In other words, even while school leaders and teachers mobilize resources through rhetorical appeals (logical, emotional and authoritative) so as to argue *about* the reformed curriculum, their arguments are shaped by the way in which district leaders and university partners frame their statements. At the same time, even though formal authorities may use different resources through the use of rhetorical appeals to persuade school leaders and teachers, these latter may still question the relevance and/or validity of the statements. While analyzing school leaders' and teachers'

arguments, I observe: 1) *What school leaders and teachers say* about the new curriculum and instruction, which represents their understanding of teaching and learning mathematics (i.e. schemas); 2) *how school leaders and teachers* mobilize rhetorical appeals (e.g. logical, emotional, authoritative) to convey their message to the intended audience (i.e. purpose); and 3) *how district leaders' and university partners' arguments* create different opportunities and/or constraints for school leaders and teachers to implement curriculum and instruction.

3.2 Methodology

This article is based on a secondary analysis of a dataset gathered as part of a larger four-year longitudinal study that was carried out in eight elementary schools from 1999 to 2003 (The Distributed Leadership Study, http://www.distributedleadership.org). There are two reasons why I focus on one low-performing school, Wayne Elementary School. First, at the onset of the study in 1999, a curricular reform initiative was under way in mathematics in the district. Second, multiple external interventions were conducted at the school in the first and second grades, and on-site university partners were present once a week over the entire study period. Therefore, the case study of Wayne Elementary School offers rich data on one high stake subject matter, i.e. mathematics, and allowed us to explore school actors' initial responses at the beginning of the implementation process.

The use of multiple methods (triangulation) allows for an in-depth understanding of ongoing social processes that take place between school leaders, teachers and other leaders (e.g. district leaders, community members and university partners). Data gathering included interviews and observations of different meetings conducted over a two-year period (2000-2002). 10 semi-structured interviews of leaders involved in the curricular reform at the second

and third grade levels were used for this article. The term 'leaders' designates those individuals who hold formal leadership positions (e.g. district curriculum specialists, grade team leaders). Interviews served to gain a better understanding of school leaders' arguments about teaching and learning. All interviews were audiotaped and later transcribed. In addition, most of the formal meetings and staff development activities that occurred during the study period were either audio or videotaped and transcribed. Field notes gathered by Amy Coldren (2006) contain detailed narratives of the interactions occurring during meetings at Wayne Elementary School. Observations, documented at three meeting situations (e.g. faculty meetings, workshops, district assistance sessions), aim to reflect the ongoing argumentation among school leaders, teachers and other actors. In total, 18 observations, in which school leaders, teachers, district leaders and university partners discussed the new mathematics curriculum, were selected. The analysis of this dataset enabled us to draw conclusions about how school leaders and teachers understand the statements and the modes of persuasion that may lead them to adopt strategic responses.

Table 2. Professional Background of District Leaders, University Partners and School Leaders

Name	Position	Years of experience
Mrs. Jackson	District Assistant Superintendent for Curriculum and Improvement of Instruction	24 years in the same district; previously a principal for 10 years, and a mathematic coordinator for 5 years
Mrs. Holmes	District Math Cadre Teacher	25 years in teaching
Pam	University Professor: Specialist in Teaching and Learning Mathematics	3 years in position; previously 2 years in teaching high school science and mathematics
Susan	Postdoctoral Student: Specialist in Teaching and Learning Mathematics	2 years in position; previously 6 years in teaching elementary school
Mr. Curtis	Principal	3 years in position; previously 15 years in administrative positions
Marcia	Second Grade Team Leader	23 years in teaching and 13 years in teaching at Wayne Elementary

Donna	Third Grade Team Leader	22 years in teaching

Note. The school and all participants' names are pseudonyms

3.2.1 Data Analysis

First, I read all the transcripts – observations and interviews – and selected those where school actors and other participants argued about mathematics. Second, using QDA Miner, a software program, I closed coded (Van der Maren, 1996) any references to mathematics across the dataset. The coding scheme included two broad categories – "schemas about mathematics" and "resources" – to explore the different topics of argumentation that occurred between school leaders and other participants. Within the two main categories, I had three subcategories based on the rhetorical appeals used by various participants during argumentation: logical, emotional and authoritative. Third, I selected and coded segments where participants talked about the two broad categories throughout the dataset: mathematics (i.e. "materials", "content" and "activities") and resources (i.e. "standards", "assessments", "benchmarks" and "standardized tests"), and classified them based on the rhetorical appeals employed (i.e. logical, emotional and/or authoritative). I double-coded any segments that referred to both categories to identify the topic of argumentation that concerned both elements. Through this initial process, I worked to identify "how much is packed into small bits of data" to gain an understanding of the underlying social processes that shape school actors' strategic responses to high stakes policy, specifically in terms of instruction and reformed curriculum (Strauss & Corbin, 1998, p. 65). In total, 63 segments were coded. To reduce any potential bias, 5 segments, all monological arguments, were excluded (e.g. the declaration of only one participant) because it was not possible to explore other actors' rhetorical responses to these arguments. The number of segments that focused only on the same two actors was also limited, in order to include arguments from as many actors as possible in the analysis. In total,

55 segments were included in the analysis. The following table summarizes the coding scheme:

Table 3. Analysis of Rhetorical Argumentation and their Appeals (Coding Scheme)

Codes	Definitions	Indicators	Examples
Logic (logos)	A participant evokes an argument based on logic, proof and/or rationality	Stating factual knowledge, evidence or data as a reason to accept or refute an argument	Marcia: "Using manipulatives has proven to be more effective for low-performing students in mathematics" Connie: "State standards are significant indicators of students' progress."
Emotion (pathos)	A participant evokes his emotions to provoke a reaction from their audience	Evoking figurative language, stories, anecdotes, declaring positive or negative emotions to provoke a reaction	Marc: "I'm worried that my kids won't succeed on the test".
Authority (ethos)	A participant makes claim to the authority or credibility of a resource or an individual to persuade the audience of the validity of their arguments	Referring to authority figures, experts, policy texts, high stakes accountability resources (state standardized tests, standards)	Paul: "The superintendent says that we must follow the district policy."

This coding scheme served to explore what types of rhetorical appeals were employed by school leaders and teachers to negotiate, persuade and/or convince the intended audience of a given statement used. Finally, I examined the content of these arguments (i.e. mathematic content, standards, and tests) within three situations: faculty meetings, mathematic workshops, and district assistance sessions. In so doing, I looked at how all participants used rhetorical appeals to argue different topics and on what grounds. Situations were compared to observe how discussions were settled and which ones remained open for debate (for further details, see Addendum I).

3.2.2 District

The district is located in an economically diverse community in the suburbs of Chicago, and serves K-8 schools and more than 7,000 students. Three universities located in the area function as a support system for the schools, many of which have been named among the top performing schools in the State. The district office centralizes most decisions concerning curriculum, textbooks and materials. In 1998, the district adopted and mandated the implementation of the first edition of a controversial mathematics curriculum, which was aligned with the National Council of Teachers of Mathematics (NCTM) standards (Coldren, 2006). The new curriculum de-emphasized traditional computation and skill-based content in favor of an inquiry-based approach focused on conceptual understanding and mathematical problem solving. The curriculum thus changed fundamental notions of mathematics teaching and learning and replaced a well-defined and structured sequence of mathematics content coverage with an alternative that emphasized a spiraling sequence. A spiraling logic requires a daily change of topics, over a two-year period, albeit in increasingly complex ways. This new approach departed from traditional mathematics instruction where acquiring and mastering prerequisite skills and knowledge were deemed necessary to progress to subsequent content. The new program also included instructional changes, such as the use of symbols and numerical representations to solve mathematical problems, and questioning techniques used to guide students in explaining their reasoning.

3.2.3 Wayne Elementary School

Wayne is a K-5 elementary school that served approximately 400 students in a small city outside of Chicago. 55% of students were characterized as low income and were eligible for the Free and Reduced Lunch program (Coldren, 2006). The student population was

composed of Caucasians (29%), African Americans (58%), Asians and Hispanics (12%). At the time of the study, the school was experiencing at least two major issues: (1) the gap in academic achievement, more specifically African American students who scored below white students, and to some degree Asian, Hispanic and Native American students; and (2) a high mobility rate due to changes in the area (i.e. gentrification). The school was not identified "In Need of School Improvement" according to the Adequate Yearly Progress (AYP) specifications under the provisions of the No Child Left Behind Act. However, it was on the Academic Watch List at the time of the study. School improvement initiatives were, thus, instigated by both the district and school leaders in order to raise academic achievement and avoid probation. This made Wayne Elementary School an ideal site for exploring the ongoing processes of argumentation that shaped school leaders' and teachers' strategic responses to the implementation of the mandated curriculum.

3.3 Findings

3.3.1 Struggling with Reformed Mathematics

I contend that school leaders' and teachers' arguments exhibited how they did not simply reject, resist and/or conform to the reform curriculum, but also how they struggled to understand what were the curriculum ideas involved for teaching and learning and what these entailed for their classroom practice. School leaders and teachers relied on emotional appeals to underscore their struggles and the conflicts between their implicit schemas and the new curriculum ideas that they understood to be too advanced for the students. These implicit schemas involved school leaders' and teachers' deep values, beliefs and prior knowledge about teaching and learning mathematics. For example, school leaders' and teachers' prior knowledge, beliefs and experience emphasized first and foremost the acquisition and mastery

of prerequisite knowledge and skills, whereas the new curriculum emphasized an inquiry-based approach, focusing on the development of critical thinking and investigation skills, and using symbols and numerical representations to solve mathematical problems. Understanding students' needs, as well as their school and home contexts, constituted an important part of teachers' and leaders' implicit schemas about teaching mathematics. The implicit and more established schemas of teaching and learning guided and influenced how school leaders and teachers understood, negotiated and argued about the mandated curriculum. In return, as school leaders and teachers voiced their concerns to the university partners and district leaders, they attempted to influence and persuade the intended audience of the relevance of their more established moral and ethical responsibilities, as well as the day-to-day practical issues of implementing the new curriculum with their specific student population.

School leaders and teachers struggled to figure out how to fit the conventional well-defined and structured sequence of mathematical topics into a spiraling sequence over a two-year cycle. In this example, Marcia, the second grade team leader, expressed her concern to Susan, the university partner. The topic of discussion focused on the acquisition of the traditional computational skills versus the new intent of gaining mathematical understanding of number concepts for students.

> Marcia: I am having difficulty with the idea of teaching this "reform curriculum." My low-end kids need a lot of rote practice. The math games don't do it. There is a problem with the "home links" because with a lot of their kids, there is very little or no support at all from home. The reform curriculum fails these kids. They are not getting what they need from this program and me. My kids love computation...
>
> Susan: In my experience, they may be able to do the problems rote [and get the right answer], but they don't understand it at all. They still see 465 [as numerals], no hundreds, tens, and ones at all.
>
> Marcia: We do it [the reform curriculum], but it's frustrating at times.

In this discussion, Marcia began by expressing how she struggled with teaching the new curriculum. As she made her argument, Marcia appealed on the logical basis that low-end students needed a lot of rote problems, because they had little or no support from home. She posited that because the reformed curriculum did not provide rote problems, the curriculum failed these students. Marcia supported her claim by explaining that by not doing the rote practices, she felt neither the curriculum nor herself provided students with the support they needed. Susan, the university partner, responded to Marcia's statement about rote problems (or computational knowledge). Appealing to her own experience as a way to give a stronger tone and credibility to her assertion, Susan tried to convince Marcia that the reformed curriculum enabled students to gain a better mathematical understanding. She justified her claim by stressing that while students were previously able to get the right answer to a question using rote practices, they did not necessarily understand number concepts. However, in her assertion, Susan did not address Marcia's claims about how the reformed curriculum supported low-end students, given that rote problems were considered as a means to compensate for low-end students' lack of knowledge. Even though Marcia conceded that she was still implementing the reformed curriculum in her classroom, the fact that she invoked "it's frustrating at times" as an emotional appeal suggests that she was still not entirely convinced about Susan's assertion.

School leaders and teachers also held strong beliefs that low-performing students needed to gain and master the prerequisite skills through repetitive activities. In this excerpt, Mr. Curtis, the principal, contended that:

> ...it [the mandated curriculum] assumes kids know things. We have quite a few kids who come with no math skills. And so then we throw them into the [reformed curriculum] program and the way the district wants us to do it.

Mr. Curtis assessed the appropriateness of the reformed curriculum based on his understanding of students' knowledge and skills, and pointed out the discrepancy between the two. He compared the level and needs of students to the latter, with the belief that the mathematical knowledge and skills required by the new curriculum were too advanced for them. He also underlined that complying with the district-mandated curriculum compelled teachers and leaders to progress through course material without students mastering skills or knowledge. School leaders and teachers asserted that the curriculum lacked basic pre-requisite skills for low-performing students who did not possess the prior conceptual understanding, and that the pacing in which the material was covered was too fast. In this example, the topic of discussion focused on the assessment of the reformed mathematics:

> Donna: We want them [students] to do a good job, but the programs want you to move on.
>
> Jane: It [the reformed curriculum] spirals, but we don't give them time to learn or digest things.
>
> Donna: We set them up to fail.
>
> Amy: We all use the same language, at least in K through 5. We are all on the same page for this.

In this discussion, teachers addressed both the district leaders and the university partners to persuade them that the pace of the reformed curriculum set up students to fail. Donna, the third grade team leader, invoked teachers' moral responsibilities as an ethical appeal to emphasize how they want students to succeed, but nevertheless she believed that the program was too

fast. This belief was intrinsically linked to her and her colleagues' schema of teaching mathematics. Jane reinforced Donna's statement by underscoring the fact that the spiraling pace did not provide enough time for students to master the prerequisite skills and knowledge. Following her colleagues' statements, Amy insisted on the fact that teachers worked collectively to use the same mathematical language. She posited that they were not simply rejecting the new curriculum, but were struggling with the pacing.

School leaders and teachers also frequently invoked their "concerns" as an emotional appeal to highlight how implementing the curriculum's new content and activities involved a significant increase of instructional time for mathematics. In their arguments, school actors emphasized both their genuine efforts to understand and implement curriculum ideas into their daily instruction, and the challenges of fitting the new requirements of the mandated curriculum in the limited time allotted to mathematics during the school day. In what follows, Marcia, the second grade team leader, brought up time management issues:

> Marcia: This would take 45 minutes - having them talk about one journal page. Am I correct in assuming you could spend 45 minutes on modeling this?
>
> Pam: You don't necessarily do it every day. This type of skill, or questioning, really cuts across subjects. It is not limited to math.
>
> Marcia: Should I allot once a week for this type of activity or do it more often?
>
> Susan: I'd say every day!
>
> Mrs. Jackson: Say one kid starts at the number 21. Ask him why? Why did he pick 21?
>
> Marcia: I'm very concerned with time and I'm aware that we have a finite amount of time to work with each day. How much time do I spend on this as opposed to the math journal sheet? You can only do so much...What do you give up? There is so much to do for the curriculum that we have to start making choices. In the long run will it help with the standardized tests or should we do computation? There are so many different messages! The bottom line is the superintendent [cares

about] how they do on the Stanford Achievement Test. Do we work toward that or work on the child as a whole?

Pam: The reform curriculum will help your students in the long run.

Susan: You shouldn't see us this year as telling you what to do. This year is a discourse year. It is for you to try out. You are the judge of what works in the classroom.

In this excerpt, Marcia attempted to understand how much time she should spend on the new instructional activity. In their responses, three different leaders conveyed different messages about the use and time allotted for the specific instructional activity. First, Susan stated the fact that questioning techniques were transversal skills. Meanwhile, Pam provided a practical answer stating that they could perform the instructional technique daily. Mrs. Jackson, the district assistant superintendent, also answered with a practical example of how to perform the activity with students. Moreover, the two university partners contradicted each other in their advice about the frequency of the activity “not necessarily every day” vs. “yes, every day”. However, none of these arguments seemed to provide a satisfying answer to Marcia, who invoked “concerns” as an emotional appeal to stress the urgency of obtaining a straight answer about time management. Marcia underscored the fact that she has “a finite amount of time to work with each day” and is forced to prioritize instructional activities. She also raised another major issue pointing out that they received "so many different messages." She highlighted the inconsistencies of the logics between the reformed curriculum and test scores. Marcia argued that these inconsistencies rested on the new curriculum, which focuses on the long-term development of the child, and the expectations of the superintendent to demonstrate quick results on standardized tests. By highlighting these inconsistencies, Marcia attempted to figure out what teachers should focus on or prioritize, and how to readapt their schedule based on

their perceived increase in activities. She also attempted to persuade both the university partners and the district leaders of the importance of clarifying the time management issue.

School leaders and teachers engaged with the new mathematics curriculum attempted to figure out how to enact it in their classrooms and how to make sense of the conflicts between these enactments and their beliefs about teaching mathematics to low-performing students. Specifically, their schemas for instruction - in particular, their belief that low-performing kids needed basic skills to master conceptual understanding and so mathematics skills need to be sequenced from more basic to more complex - came into conflict with their understanding of core ideas in the new curriculum. This included an inquiry-based approach, a focus on the development of critical thinking and investigation skills, and the use of symbols and numerical representations to solve mathematical problems. Teachers did not simply reject the reformed curriculum, but instead, in their struggles to implement the ideas they understood from the curriculum about teaching mathematics, they uncovered and voiced key conflicts regarding their beliefs about the best way teaching of mathematics for their particular student population. In voicing these conflicts, school leaders invoked both ethical and emotional appeals to influence the district leader and university partners to provide clear answers about day-to-day instructional issues, such as what to focus on or prioritize, how to readapt their schedule based on their perceived increase of activities. School leaders and teachers also attempted to persuade them that they struggled with some of the conceptual ideas, such as pacing, lack of basic knowledge and computational skills.

3.3.2 Validating Understanding and Clarifying Confusion Using State Tests and Standards

In their genuine efforts to implement the new curriculum, school leaders and teachers appealed to tests and standards to clarify the conflicts provoked between their schemas for teaching and their understandings of what the new curriculum ideas embodied. They used policy as a resource that enabled them to make logical and authoritative claims about their struggling attempts to implement new curriculum ideas. In so doing, school leaders and teachers worked to persuade district leaders and university partners of the confusion brought about by the conflict between new curriculum ideas and state district tests and standards. In these persuasion efforts, school leaders and teachers evoked the state standardized test: (1) to question and clarify confusions about the content of the district's assessment; (2) to highlight the contradictions between the reformed mathematics curriculum and the state's requirements; and (3) to point out the contradictions between the different tests, namely, the state test and the district test.

School leaders and teachers evoked the district test to question the content and clear up the confusion surrounding assessing reasoning skills in mathematics. In this following excerpt, they talked about how providing explanations became a big issue in raising students' achievement when they were assessed by the district:

> Judy: That [an explanation] is a big part of assessments.
>
> Erin: They [the district] want to know why.
>
> Marcia: They want a picture and want you to explain how they did it.
>
> Susan: The problem might not be an understanding of math, but that language skills are a problem.
>
> Judy [referring to a student]: If that were an assessment, he'd get a 50% on it for having no explanation, even though he solved the problem.

Kate: It's hard to put that stuff [an explanation] on paper. It's hard to make the transition from numbers to how to write it.

Many nod in agreement.

Erin: Some of my students have written explanations like "I used my brain".

Susan: These things don't just happen [overnight]. Our goal should be movement on these things across time.

In this discussion, teachers underscored how explanations had become a significant portion of students' scores on the district assessment. Susan, the university partner, explained how providing explanations could be a language skills problem rather than one of understanding mathematics. Judy underlined the fact that explanations counted for 50% of problem solving, which caused some students to fail even if they did solve the problem. However, she did not provide an explanation. Kate also believed that the district requirement to provide an explanation was a difficult "transition from number to writing" for students. Erin supported her colleagues' claim by providing an example of how some students struggled to explain how they solve a math problem. Susan agreed with the teachers' logical claims by emphasizing that developing reasoning skills would take time.

Furthermore, school leaders and teachers appealed to the state standardized test to highlight that there was still confusion as to what they should be focusing on – computational or reasoning skills – so as to align with the tests. Consider an excerpt from a meeting in which university partners attempted to show teachers how they could help students achieve the new standard:

Susan: What can you do to get students to be able to explain their answers?

Erin: I ask things like, "how did you know to do that?" and "How would you explain what you did?"

Judy: I don't think it [written explanations] should be on the district assessment.

Others agree.

Susan: I would start with something really easy, something they can do.

Pam: What about modeling for the students? You could write the explanation on the board for the class. Does it have to be in complete sentences or something?

Marcia [reads aloud from the district policy text]: Explanations must be clear and complete.

Emma: There is the standardized test which tests a lot of computation and then there is the district test that is aligned with what we're teaching.

Eileen: For the third grade, the ISAT [state standardized test] has those kinds of problems [written explanations].

In this excerpt, Judy called into question the validity of written explanation as part of a mathematical assessment. Susan and Pam, the university partners, did not directly address the issue. Instead, they refocused the conversation on what teachers could do to help students write down the explanations and, therefore, meet the requirements of the new curriculum. Susan inquired about the district's expectations by asking teachers if students had to write complete sentences. Marcia referred directly to the district policy text as a way to provide a clear answer regarding the district's expectations. Eileen concluded by invoking the logic of the two tests to underscore the confusion surrounding district and state standards, as well as teachers' understanding that the mandated curriculum responded to the former, but not to the latter.

School leaders argued that although the new curriculum aligned with the district assessment requirements, they did not believe that it met those of the state standardized test

because of its limited attention to computational skills. In the following excerpt, Marcia asked the district assistant superintendent, Mrs. Jackson, to provide them with a clear answer:

> Marcia: We consider Mrs. Jackson our expert for [reformed] math! The Stanford is a computational test. We are wondering what we are accountable for if it's not aligned with what we are doing.
>
> Mrs. Jackson**:** The ISAT is aligned. I would not worry about the Stanford. The overriding issue is the ISAT. I attended a meeting with the superintendents today and that was made clear today [at that meeting].

Marcia relied on facts about the content of the tests to illustrate the inconsistencies between the tests and the reformed curriculum, and she asked for clarity regarding what teachers were accountable for if student evaluations (i.e. the Stanford test) were not aligned with what was covered in class. Mrs. Jackson stated that the state standardized test (i.e. the ISAT) was the most important test, but she did not address the issue of the inconsistencies between the different standardized tests. Invoking the authority of the superintendent enabled her to back up this statement and to deflect attention away from the issue of discrepancies between the two tests.

3.3.3 Negotiation, Persuasion and Authority

Even though school leaders and teachers used the argument about state standardized test to persuade district leaders that the district tests and policy texts were not aligned, the same district leaders still tried to persuade teachers to follow the districts tests and texts. District leaders, along with Principal Curtis, did not directly advocate the merits of the district tests and texts as an acceptable measure of student progress. Rather, by relying on the mandated curriculum as a logical appeal, district leaders and the principal attempted to

persuade teachers to comply with the new curriculum's educational philosophy and instructional changes. They justified their appeals by explaining that the district's choice of curriculum aimed to raise academic standards for students. They also drew on the state standardized test as a perceived authoritative measure of students' progress by teachers to support their claims about the benefits of new curriculum ideas. In so doing, district leaders and university partners set boundaries about the topics that could be negotiated, debated and/or ignored in the implementation process of the mandated curriculum through their own mobilization of different resources (state and district tests). In so doing, district leaders and university partners established two areas of argumentation - negotiable and non-negotiable – pressing teachers to comply with the non-negotiable (e.g. the sequence and pace of curriculum, the state standardized test), and leaving some room for negotiable topics (pedagogical methods, scope of curriculum). We examined and compared these areas of argumentation, which occurred in three situations: faculty meetings, mathematics workshops and district assistance sessions.

Faculty Meetings

During faculty meetings, school leaders were explicit about the non-negotiable aspects of standards, tests and the new curriculum. School leaders worked to persuade teachers to modify their behaviours to comply with the district policy, tests and standards. During the first year of the study, they used reported speech by referring to their discussions with the district leaders, and used the mathematical language associated with the reformed curriculum in order to explain and press teachers to raise academic standards.

> Mr. Curtis: I had a meeting yesterday with District Assistant Superintendent and District Literacy Director. They said that the one thing that is happening at the middle school, is what is being offered...what is being expected, is being raised. This raising of expectations trickles down to the elementary schools. Now, eighth

> graders are expected to take Algebra which means that they need to be prepared to take Algebra in the earlier grades. This means it is necessary to look at what fifth graders need going into sixth grade. When kids graduate from the eighth grade, it is expected kids will go into geometry, not algebra. Algebra will be the eighth grade core curriculum. This trickles down all the way to the kindergarten teachers. With the fifth grade team, we're talking about 6th grade work...for the fourth grade team, we're talking about fifth grade work. In the math program, we must use mathematical language. When you use the little yellow cubes, you shouldn't refer to them as "cheese boxes" rather you should refer to them as their real name.
>
> Eileen: Yellow hexagons.
>
> Mr. Curtis: That is not the language used on [district] tests. It is important to use mathematical language. Don't short change the kids...use the language.

In the following discussion, Mr. Curtis referred to his meeting with the district leaders as a way to underscore what the district said and expected. In so doing, he worked to persuade teachers that using mathematical language and raising standards was part of the district's directives. He stressed that using the language of the reformed curriculum prepares students for the tests without specifying which tests: state or district. Mr. Curtis used the figurative appeal of "don't short change the kids" to appeal to teachers' moral duty towards their students as a way to reinforce the importance of his message.

During the second year of the study, school leaders used formal authority by referencing district policy in order to get teachers to comply with the pace and sequence stated in the district- mandated curriculum. They stressed that teachers' level of performance was now explicitly tied to some pedagogical aspects (e.g. using questioning techniques, engaging students in learning), as well as content (e.g. sequence and pace) related to the educational philosophy of the curriculum. In this example, Mr. Curtis distributed a handout containing the components of professional practice to see whether or not teachers met the district standards. Mr. Curtis stated:

> The reason you got this is so you can be reflective. With respect to teaching, are you really doing what you should be? A good example is the "math thing". This is the first time everybody's teaching the same math series. Some people are being very proficient and some people are being really basic. You should follow the curriculum and stay with the sequence and pacing, if kids don't get it. Next year, you should bring everything together and master the basic so you can enhance and improve. You have to find different ways of meeting the needs of the students. You have to use your knowledge and skills. This is so you have an example [referring to the 'level of performance' handout]. If you wonder what do you mean? You can go back to this. Keep this with you. This is where my brain clicks in. When I am observing I may think, "she's just doing some basic stuff right now" and "that stuff kind of stays with me."

In the second year, Mr. Curtis compelled teachers to enact and comply with the sequence and pace of the curriculum. He insisted that teachers should conform even if they were struggling with some aspects of the curriculum. He raised the stakes by emphasizing how classroom observations would take into account their compliance.

Focusing on 'non-negotiables' with respect to implementing the reform curriculum, school leaders relied exclusively on formal authority to set the non-negotiable nature of district standards and the mandated curriculum, including its sequence and pace, thus ignoring the notion that curriculum ideas could be negotiated. They provided little opportunity for teachers to modify their schemas about teaching mathematics through open conversations, negotiations or debates. Considering that school leaders shared teachers' implicit schemas about mathematics, they explicitly structured their argumentation around the district directives through reported speech and policy references. In so doing, references to formal authority enabled school leaders to guide teachers in the specific and explicit direction required by the district without having to address their own struggle with some of the new curriculum ideas.

Mathematics Workshops

During the first year of the study, the district partnered with a local university, holding a series of workshops designed to support teachers in changing their schemas and pedagogical methods in mathematics. The workshops were designed to develop teachers' critical reasoning and engage them in analytical observation and discussions about teaching mathematics. Dialogues covered pedagogical topics related to reformed mathematics, such as the role of students' schemas in teaching and learning mathematics, student participation in classroom discussions, the use of vignettes, and other instructional methods in problem solving.

Susan and Pam, the two university partners, worked to convince school leaders and teachers of the relevance of the new mathematical paradigm (ideas, concepts, representations) for their students. They used logic by referring to principles of questioning techniques in the classroom to show teachers how to engage students in mathematical discourse, and to the multiple learning paths available to students for solving problems. University partners confronted teachers with the same type of exercises being asked of students. In this sequence, Susan, the university partner, initiated the conversation about how to teach fractions:

> Susan: Can someone explain how they solved the problem?
>
> Mary: We figured out we need four buttons for six paper clips, but I admit I didn't realize this until I got a hint from Susan.
>
> Susan: So you still do it numerically [...] You used numbers.
>
> Marcia: I would have gotten it wrong [...] I read the problem wrong and would have answered three instead of nine. I would have read the problem cursorily, quickly solved it, and given a solution that was not what was being asked for.
>
> Susan: In reform mathematics, you have to work with the kids on not rushing. The idea is to think about the problems a little more. Did someone solve it differently?
>
> Erin: I used pictures to solve it. I drew in the four buttons to correspond with the six paper clips and then added two more buttons (one above the four and one

below) and the three more paper clips [one and a half above and one and a half below.]

Pam: You drew a button and two paper clips, but only counted one and a half. Why was that?

Erin: I don't know...I'm not sure.

Pam: I thought that was interesting.

Marcia: Why did you draw a button at the bottom?

Erin: I had run out of room at the top.

Susan: It's important to get your kids to ask questions about what they don't understand.

In this example, Susan and Pam modeled how teachers could use questioning techniques in their classroom in order to show and convince them of the benefits of this pedagogical approach for their students.

University partners also used their own experiences as elementary school teachers to give more authority to their statements concerning the feasibility of implementing the new curriculum ideas into classroom practices. They stressed how they themselves used these instructional methods with students, and how students benefited from it. In this example, university partners showed teachers how to teach subtraction from the reformed curriculum perspective:

Marcia**:** I am inclined to represent both numbers to solve the subtraction problem rather than just the one. I would put 465. I would put 276. Some of my kids, they would have to see that.

Susan: In my experience with mostly older elementary kids, they get confused when you have both numbers out there.

Marcia: These are second graders. They need to see that block and that block.

Mrs. Jackson**:** I would put 465 up there and 276 off to the side.

Marcia**:** Right! Yes.

Pam: Suppose you have the problem, I have ten apples. Take away three apples. How many apples do you have left? Would you represent the three apples for them?

Susan: if they [the students] need it, I would give it to them.

In this excerpt, Marcia struggled to understand the new way of solving subtraction. She stressed how some of her students needed to see the numbers as opposed to symbols. Three different people provided different statements. Susan relied on her experience as a teacher to emphasize how older elementary students get confused by the traditional instructional approach. However, this statement did not resonate with Marcia, who works with younger children. Mrs. Jackson, the district assistant superintendent, agreed with Marcia about the method for teaching subtraction. Pam attempted to provide an explanation using symbols. Susan, finally, concluded and contradicted her original statement by stating that if students needed [numbers], she would do it the traditional way. In so doing, university partners sometimes made ambiguous statements about enacting the traditional versus the reformed pedagogical approaches. These ambiguous statements not only showed that there was disagreement and confusion even among 'experts' on the new curriculum, but these made it more difficult to persuade teachers of the relevance of using visual representations versus numbers to teach subtraction for students.

Focusing on the 'negotiables' with respect to implementing the reformed curriculum, university partners relied mostly on the curriculum resources to make logical claims about the new mathematics paradigm. They also supported some claims by highlighting their credibility

as experts in order to influence and persuade teachers of the relevance of their statements. They provided little opportunity for school leaders and teachers to understand or negotiate how the new curriculum ideas aligned with the state and districts test and standards. Considering that university partners rarely relied on policy texts and resources, they left some pending questions about issues of alignment, relevance and validity in relation to high stakes policy (e.g. how new curriculum ideas met state standards).

District Math Cadre Assistance

During the second year of the study, the district increased the presence of mathematical assistance by requesting that the math cadre teacher meet periodically with teachers in the different schools. Dialogues covered topics related to curriculum content such as the units in the textbooks, usage of materials in classroom activities, and any instructional issues teachers encountered. The Math Cadre teacher, Mrs. Holmes, was explicit about the non-negotiable aspects of the curriculum, as well as the state and district tests and standards. Mrs. Holmes worked to persuade teachers to comply with the non-negotiable aspects of new curriculum ideas and instruction.

Mrs. Holmes used formal authority by referring to the state standardized test to persuade teachers that past beliefs about computational skills were erroneous. In this example, she explained to teachers how the curriculum content and the state standardized test were aligned:

> How important is this unit? This is like a sample ISAT. I went to a meeting and my task was to find out how many geometry things there were on the test. There were 13 questions on geometry, 5 on probability, and 6 on measurement. There is relatively little computation. […] These tests are not in any way 8 plus 7. Teachers are still insisting that they spend all of their time on basic computation. If teachers think it's this [all about computation], it's all over.

Mrs. Holmes referred to facts and statistics to convince teachers that the mastery of basic knowledge and skills was not necessary for learning mathematics. She also showed them a sample test as physical evidence to support her claim that any persisting beliefs about computational skills were erroneous. In another sequence, drawing on the national standards logic, the Math Cadre insisted once again on the importance of stepping away from teachers' schemas of computational skills based on the national standards logic.

> Mrs. Holmes: This is really important. This came from the national standards. We realized that we were behind other countries and our students couldn't build X. Some of the districts at this meeting were "hodge-podging it". Those days are over. There are teachers "who want basics", but I've been doing this for 25 years and they [students] never knew their facts. If it bothers some people then they can do ten-minute drills on computation, but computation should be 30% instead of 80%.
>
> Marilyn: I feel like I am rushing through everything. I feel they [students] haven't grasped things and I have some kids who understand what they are doing, but I'm concerned about the other kids in my class who don't know what they are doing.

Mrs. Holmes relied on both her 25 years of teaching experience and the national standards as authoritative resources to persuade teachers that basic knowledge, such as facts, was not sufficient to foster learning in mathematics. Even though Mrs. Holmes used different resources and rhetoric to persuade teachers that the mastery of computational skills was not an essential part of learning, Marilyn, a second grade teacher, remained worried about how the program would be able to foster learning for all her students. She underscored her scepticism by emphasizing her frustration in regards to the program. She reiterated her belief that some students needed to gain and master concepts. She also stressed the point that the curriculum moved too quickly. The discussions ended with some shared understanding between the parties that teachers did gradually guide students in the learning process "step by step".

On one occasion, Mrs. Holmes agreed with some of the teachers' arguments about the reformed curriculum in regards to the significant increase in instructional time and activities. In the following discussion, Mrs. Holmes addressed the informal "gray area":

Mrs. Holmes: I think it's a lot to get through unit four.

Michelle: We're moving...

Marilyn: We're moving on through but I'm not real confident.

Mrs. Holmes: Don't quote me on any of this, but that you can "skip" some of the explorations. "A" is always the teaching lesson, so you always should do that [that is the part that is teacher directed], but you can let go of B and C right now. Your other option is to take a week and a half to get through this and move into section 5. The only negative is when you come back from break you're in the middle of it, for evaluation purposes.... It would have to be your call.

Mrs. Holmes provided teachers with an opportunity to adapt the curriculum in terms of scope by highlighting which units were essential and which ones could be ignored. Mrs. Holmes called upon teachers' professional expertise for evaluating and deciding how they should adapt the curriculum to their classrooms. She noted "don't quote me on any of this" to informally underscore how teachers could skip some lessons.

Focusing mostly on the 'non-negotiables' with respect to implementing the reformed curriculum, Mrs. Holmes relied mostly on the logic of state tests, statistics and standards to stress teachers' faulty way of thinking about the pre-requisite skills and knowledge needed to master conceptual understanding. She provided little opportunity for school leaders and teachers to understand or negotiate how and why moving away from the traditional approach of mastering basic knowledge and computational skills towards an inquiry-based approach was beneficial for students. Considering that the Math Cadre teacher had an understanding of teachers' implicit schemas, she pressed them to comply with the new curriculum ideas by

emphasizing the connections between the ideas and the state standards and tests. By establishing the link between the facts and evidence and new curriculum ideas, it enabled the Math Cadre teacher to build on teachers' beliefs, values and knowledge and to convince them that their existing schemas about teaching mathematics failed students. However, she did not give them much room to negotiate or confront her authoritative claims.

3.4 Discussion

By attending to the social processes that shape teachers' strategic responses during the policy implementation process, I build on and extend prior work on school leaders' and teachers' responses to the literature on high stakes policy and mandated curriculum (Coburn, Touré & Yashamita, 2009; Coburn & Woulfin, 2012; Spillane & Anderson, in press). In so doing, I extend the existing literature in three ways. First, consistent with prior work (Au, 2007; Chiang, 2009; Jacob, 2005; Rouse et al., 2007), and even though school leaders' and teachers' arguments displayed strategic responses about instructional and curriculum reform efforts at one level (for example, narrowing content, focusing on basic skills and knowledge), the analysis of rhetorical argumentation shows that negotiations about the implementation of mandated curriculum operate in deep structures, which guide and shape social processes that exhibit strategic responses. By looking at these deep structures, I find the implicit and taken-for-granted schemas of teaching elementary mathematics in school leaders' and teachers' recurrent arguments that reflect deep beliefs, values, prior knowledge and experiences in teaching and learning mathematics. In return, school leaders' and teachers' schemas reflected the social structures (primarily patterns of interactions among themselves and with district leaders and university partners) which shaped their strategic responses.

Findings suggest that school leaders' and teachers' strategic responses to high stakes policy and mandated curriculum - while exhibiting the reinforcement of some persistent beliefs, values and prior knowledge about what constitutes effective pedagogical methods, is not at the expense of the quality of instruction and experiences for students - but rather involves other tactics and rhetorical strategies. By exploring the implicit and taken-for-granted schemas of elementary school leaders and teachers, I note that the implementation of the reformed curriculum represented substantial changes in the educational philosophy, beliefs and values of teaching and learning mathematics – a shift from a behaviourist towards a cognitivist view of learning. The way in which the new educational philosophy viewed students, where students are engaged in more complex ideas and thinking, was at odds with the elementary school leaders' and teachers' implicit schemas. whereby students learn best through a hierarchical and linear structure, starting from basic skills and building up to more complex concepts and higher order skills and thinking (Melville, Kajander, Kerr & Holm, 2013; Spillane, 2002). For instance, while school leaders and teachers repeatedly focused on basic knowledge and computational skills in their arguments, their positions did not only advocate to reduce content to its simplest form (McNeil, 2000). Rather, these arguments reflected a more established and taken for granted behaviourist view of learning mathematics. As such, focusing on basic knowledge and skills represents a commonly held schema about what low-performing students need: a strong mathematical foundation to counterweigh their lack of numerical knowledge and to provide a basis for more complex concepts (Spillane, 2002). School leaders' and teachers' used state standardized tests and policy texts as rhetorical strategies to sustain their arguments in their attempts to influence and persuade district leaders and university partners of the importance of basic knowledge and skills.

Second, findings shows that school leaders and teachers appealed to the logic of state and district tests and standards to persuade district leaders and university partners of the confusing and ambiguous messages they received about the mandated curriculum and the different tests and standards. For instance, they attempted to validate and clarify confusing messages, conveyed by district leaders and university partners, about how the new curriculum was aligned to state and district tests and standard. Although different leaders stated clearly and explicitly that state standards and standardized tests represented an authoritative measure of students' progress, they unintentionally conveyed ambiguous messages by not providing a clear explanation about how the new curriculum aligned with these standards.

School leaders and teachers also appealed to the logic of tests and standards to highlight the confusion between the state and district test requirements. For instance, though teachers invoked state and district tests to clarify some of the confusion about what they should be focusing on – computational or reasoning skills – to align with state and district tests, they did attempt to understand how assessing more complex skills was relevant if the state continued to assess basic skills. In so doing, they attempted to point out how the content of the district assessment appeared unrelated to the content of other assessments in mathematics. In appealing to the logic of tests and standards, school leaders and teachers confront and validate their existing schemas of teaching with the schemas of the mandated curriculum. Relying on tests and standards, thus, worked as part of the transformation and learning process for school leaders and teachers (Anagnostopoulos, & Rutledge, 2007; Sewell, 1992). Findings show how school leaders' and teachers' arguments also worked to influence district leaders, and that this influence was not solely held by formal authorities, but was sometimes reciprocal. For instance, school leaders and teachers appealed to state policy to persuade district leaders who

are “in between them”, of the validity of some of their arguments. District leaders and university partners give in to teachers’ arguments about the validity of their claims that represents a much more complex story than is told in the literature (Coburn & Woulfin, 2012).

Third, findings suggest that the ways district leaders and university partners drew on different rhetorical appeals created different opportunities and/or constraints for school leaders and teachers to negotiate, confront and/or debate new curriculum ideas, tests and standards. These leaders set boundaries about the reformed curriculum by establishing the negotiable (pedagogical methods, scope of curriculum,) and non-negotiable (sequence and pace of curriculum, state standardized test,) topics across the three situations. For instance, district and school leaders relied mostly on formal authority to set the non-negotiable nature of district standards and the mandated curriculum, including its sequence and pace, leaving university partners with the task of negotiating new curriculum ideas or pedagogical methods. However, the focus on specific negotiable and non-negotiable aspects of the curriculum’s implementation by district, school leaders and university partners left some topics unaddressed. For example, while school leaders advocated the specific and explicit direction required by the district, they ignored the issue of how and why moving away from the mastery of basic knowledge and computational skills was beneficial for students’ learning. In so doing, I argue that unaddressed topics opened up space for school leaders and teachers to interpret, in their local settings, some aspects of curriculum content and pedagogical methods according to their existing schemas (e.g. what they believed would be best for their students) (Coburn, Touré & Yashamita, 2009).

Findings also illustrate that while the dominant rhetorical appeal was to invoke the logic of policy texts and tests to persuade teachers to comply with the mandated curriculum, district

leaders and university partners also relied on different resources and rhetorical appeals to convey strong messages (Lowenhaupt, Spillane & Hallett, in press). Their efforts to promote the new curriculum and instructional change in order to raise standards and improve student achievement depended on district leaders' and university partners' ability to mobilize a range of different resources (e.g. curriculum resources, policy texts, standards, and tests) and to adapt their arguments to the context of the conversation (e.g. teaching experiences, teachers' moral sense of duty). In so doing, district leaders and university partners were able to convey strong, clear and explicit messages about curriculum ideas, pedagogical methods and high stakes demands. For instance, teachers clearly understood that the state standardized test was the most decisive measure of students' progress. However, university partners' efforts to promote the new curriculum and instructional change in order to raise standards became onerous if they lacked the knowledge related to policy environment to support their justification of the benefit of curriculum and instructional change for teachers and students. For instance, university partners struggled to no avail to persuade teachers in their messages because they lacked knowledge about policy texts, standards and tests. While invoking the logic of the new educational philosophy, university partners, who worked to convince teachers of the benefits of the new approach for students, saw some arguments weaken in the course of conversation because they were unable to answer specific questions about the alignment of new curriculum with tests and standards. In those instances, university partners endeavored to convince teachers of the relevance and validity of these new curriculum ideas in relation to high stake testing demands (e.g. how new curriculum ideas met state standards). Findings illustrate how leaders' ability to mobilize resources in support to their arguments also comes from their knowledge of both curriculum and policy demands. This also resonates with the

argument that both the educational and political roles of university partners are important in bringing about substantial changes to school leaders' and teachers' implicit schemas about teaching and learning mathematics (Coburn & Woulfin, 2012).

3.5 Implications and Conclusion

These findings have three main implications for research on high stakes policy and implementation. First, this study underscores the role of emotional appeals (or pathos) as an important source of information about school actors' implicit and more established schemas of teaching and learning, or the manner in which they guide and shape responses to their environment and structure their arguments for or against curriculum reform. Even though we cannot generalize these findings, this suggests looking beyond the display of emotional appeals to examine the content of arguments or what is being said that may embody the deep values, beliefs and prior knowledge. In this study, while school actors' emotional appeals have been invalidated with logical arguments, these findings showed how ignoring the former appeals made it difficult for leaders, not only to modify the implicit schemas, but to persuade school actors to make specific curriculum and instructional changes. Further investigations could examine the role of pathos in negotiating and persuading school actors' decisions and actions in relation to curriculum and instructional changes. More specifically, how and when the use of emotional appeals conveys stronger arguments to school actors, and may help to modify implicit schemas in order to implement curriculum and instructional changes over time.

Second, this study illustrates how the nature of the rhetorical appeals and resources used in leaders' arguments played an important role in attempting to influence and persuade school

leaders and teachers to implement expected curriculum and instructional changes. These findings illustrated how some rhetorical appeals worked better than others in negotiating and persuading school actors to implement curriculum and instructional changes. For instance, university partners, who called upon their own experiences to establish their credibility in relation to the expected conceptual and instructional changes, saw their persuasion efforts diminished by their lack of knowledge about tests and policy texts in which these ideas were being implemented. These findings also showed how resources carried varying degrees of authority for school actors. For example, high stake state standardized tests and policy texts as resources for rhetorical appeals gave more credibility and authority to leaders in persuading school actors of the validity and coherence of new curriculum ideas and content with external demands. This suggests that finding a balance among the different rhetorical appeals, and mobilizing resources through modes of negotiation and persuasion, may help school leaders and teachers to understand and implement curriculum and instructional changes (Coburn & Woulfin, 2012). Further investigations would benefit from examining to what extent leaders' knowledge and mobilization of the different resources (e.g. standards, tests, benchmarks) and rhetorical appeals (e.g. pathos, logos and ethos) may work to gradually influence and persuade school actors about the relevance, consistence and validity of their proposed arguments over time.

Third, this study offers a useful analytical approach to examine the multiple interpretations and influences of leaders and their interactions with teachers in schools. By examining the rhetorical appeals and comparing the situations in which leaders used them, these findings showed how the negotiation and argumentation processes were shaped by mutual attempts to influence between district leaders, university partners and school actors. These findings

illustrated how district leaders and university partners rhetorically created areas in which school actors could or could not negotiate the aspects of curriculum that were mandatory and those that were left to their professional discretion. In addition, school actors also attempted to influence and persuade district leaders and university partners that they had a struggle to understand and needed clear answers to the perceived contradictions between the reformed mathematics curriculum and the state's requirements, and between the state and district tests. Further investigations may consider how and why different system and non-system actors are able to create opportunities to negotiate and influence school actors to implement curriculum and instruction and to respond to high stakes policy. By attending to the role of different actors, researchers could also seek to better understand what makes some actors rhetorically more successful than others in helping and persuading school actors to implement expected changes.

CHAPTER 4: INVESTIGATING HIGH STAKES POLICY AND LANGUAGE ARTS INSTRUCTION

Over the last thirty years, federal, state and district policies have increasingly paid attention to improving the quality of teaching and learning in American public schools. Recent high stakes policy has focused on reading, writing and mathematics as central measures by which districts and schools are assessed for their performance level. These policies send powerful messages not only about how school actors should concern themselves with student achievement, but also how they should organize locally so that they hold themselves, both individually and collectively, accountable for the improvement of teaching and learning (Lowenhaupt, Spillane & Hallet, in press; O'Day, 2002). However, holding themselves individually and collectively as well as responding to external demands turned out to be more challenging than expected. In their attempts to improve the quality of instruction, school leaders and teachers face ongoing and sometimes conflicting negotiation of external demands with their school conditions.

Some authors underscore how schools' responses to high stakes policy is largely predicated by teachers' instruction as well as the ways school actors agree and work collectively about instructional goals and means (Alberman, Elmore, et al., 1999; Cohen, 2011; O'Day, 2002; Poole, 2011). These authors show how high stakes policy had little impact on modifying and strengthening interactions among school leaders and teachers in low-performing schools. Alberman, Elmore et al. (1999) demonstrate how the internal accountability structure – the degree to which individual responsibility and collective expectations align- has greater influence on behavior than external policy. They indicate that in such cases, accountability grew out of school leaders' and teachers' individual beliefs and values rather than a formal or explicit agreement. Cohen (2011) explains that when schools

held low degree of instructional consensus, teachers faced greater uncertainties about instructional goals and means to improve student achievement. This suggests that internal accountability structure is a crucial dimension to take into account when trying to understand how schools respond to, and work to improve the quality of instruction.

Other authors show how external accountability carries conflicting and sometimes contradictory demands that work at the expense of professional commitments and instructional improvement (Hall & Ryan, 2011; Marks & Nance, 2007; O'Day, 2002). Hall & Ryan (2011) underscore, for instance, the contradiction in the notion of student learning: students' incremental progress (i.e. yearly progression) versus students' outcomes (i.e. meeting AYP standards). They show how teachers focused on tests differently depending on their perception of tests (i.e. attaining higher achievement versus being judged by AYP standards). Their perception of tests influenced how they came to focus solely on the state test as a valid performance measure, or on multiple forms of assessment. Teachers, who focused on multiple forms of assessments, encouraged higher achievement not "just in terms of testing, but the honor roll and everything else", whereas their colleagues attended mainly to the annual state test. O'Day (2002) point out how the negative consequences of high stakes testing, such as probation or threat of reconstitution, work against professional accountability by undermining innovation and risk-taking necessary for significant instructional improvement. To avoid such consequences, teachers respond symbolically to the district requirements. Too much external pressure maintains or reinforces compliance with external demands rather than foster the professional learning and collective accountability that are necessary for improving instruction and learning (McNeil, 2000; O'Day, 2002).

Despite many reform efforts to improve the quality of instruction, many challenges remain in bringing instructional improvement in low-performing schools. While high stakes tests and standards send a clear message about the skill and knowledge requirements to reach, external accountability carries different assumptions and demands that may work against school actors' attempt to improve the quality of instruction. This suggests looking at how accountability assumptions from the environment and the day-to-day activities play out in interactions among school leaders and teachers about high stakes subject matters.

In this paper, I aim to better understand how professional and bureaucratic accountability forms influence school leaders' and teachers' efforts to implement new practices in language arts instruction. To this end, I address two key questions: 1) How do high stakes policy shape which elements of instruction are reproduced and which ones are transformed over time; 2) How do leaders' understandings of accountability shape which aspects of policy school actors notice through interactions and discussions and how they attend to some policy messages while ignoring others? To disentangle the complexities of instructional improvement in a high stakes policy environment, I use the interplay of agency and structure to analyze how social structures, including the extent to there is agreement about instructional goals, individual responsibilities and collective expectations to produce results, enable and constrain implementation.

4.1 Theoretical Framework: Accountability Forms, Organizational Routines and Sense-Making

I begin by situating this study in the field of policy implementation, organizational routine theory and sense-making. These theoretical anchors allow to explore how two accountability forms-bureaucratic and professional- are diffused, co-exist and come in tension

during the implementation of a new routine. In so doing, I focus on the role of organizational routine as a social structure that shapes how school leaders and teachers transform, reproduce or challenge some aspects of language arts instruction in light of these two accountability forms. I look at the structural factors of one routine that can either support or constrain instructional changes. I examine different actors' sense-making as a mediating process of the ostensive and performative aspects of organizational routines. More particularly, I examine how meanings are discussed, negotiated, and/or contested among school leaders, teachers and other leaders.

4.1.1 Accountability Forms

Several implementation scholars have used organizational theories to study how external accountability has changed organizational activity within schools (Datnow, Park, & Kennedy-Lewis, 2013; Spillane, Mesler Parise, & Zoltners Sherer, 2011; Zoltners Sherer & Spillane, 2011). Using concepts such as "coupling", "organizational routine" and "formal structure", these scholars have illustrated how high stakes standards and tests worked to reinforce the loosely coupled school organizations by tying these external pressures with the technical core of schooling. They showed how some aspects of the formal structure such as the professional norms of isolation and private instructional practice, and the weak internal accountability structures (e.g. consensus about school mission, collective instructional goals for student learning, consistency of instructional quality and learning) remained considerably immune to external accountability.

I aim to expand on this literature by suggesting that accountability is pluralistic in nature. Accountability carries different assumptions about the nature of the improvement, the

amount of organizational and instructional improvements expected and the outcomes anticipated (Ben Jaafar & Anderson, 2007). It can be external or internal. External accountability can be understood as a bureaucratic form where legal prescriptions such as rules and regulations, the standardization of norms and tasks and a clear top-down hierarchical model come to guide school actors' action. The bureaucratic accountability form seeks to increase scrutiny of school actors' work by establishing rules and regulations and ensuring that compliance is monitored and assessed. This form of accountability may include 1) complying with federal, state, district or local curriculum standards and benchmarks, 2) reinforcing administrative control through monitoring and assessment school actors' work, 3) using data from various indicators to stimulate action (Ben Jaafar & Anderson, 2007; Garn, 2001; Ranson, 2003). As to internal accountability, it is a professional form that seeks to increase school actors' individual sense of responsibility and collective expectations so that teaching and students' learning are placed at the center of professional work (Abelmann & Elmore, 1999; Ben Jaafar & Anderson, 2007; Hall & Ryan, 2011; Harris & Chapman, 2004). This form of accountability may include 1) conferring teachers decision-making authority (or to their professional judgment), 2) collaborating with others to set and maintain professional standards, 3) diagnosing professional work difficulties, assessing possible solutions, and selecting among them, and 4) monitoring professional work using standards as basis for evaluation and professional development (Leithwood, 2000). While these two accountability forms do not provide an exhaustive description of the plurality of possible forms, they offer an analytical tool to observe the forms that are being diffused in schools about instruction, sometimes competing and shifting the locus of authority and responsibility onto different actors. These accountability forms redefine the nature of the relationships between school

actors and a wide range of system actors. These relationships depend on different elements: 1) who is accountable to whom, 2) how is the accountability process accomplished and 3) to what end. Consequently, the accountability forms also co-exist within schools. Many scholars have argued that this plurality often manifests in incompatible and conflicting ways (Meyer & Rowan, 1977; Suddaby & Greenwood, 2005). While several typologies of accountability have been provided in the literature (Garn, 2001; Ranson, 2003; Leithwood, 2001), little empirical work has been done to explore how these different forms are diffused and co-exist inside schools.

4.1.2 Organizational Routines

The concept of organizational routines allows to explore how accountability forms and meanings are enacted among school leaders and teachers. Organizational routines are defined as "a repetitive, recognizable pattern of interactions, involving multiple actors" (Feldman & Pentland, 2003, p.96). These routines include faculty meetings, grade-level meetings, onsite professional development, school improvement meetings. They can be observed through the ostensive and performative aspects. The ostensive aspect of a routine refers to "the idealized, operating procedures or original script" (Feldman & Pentland, 2003) of school leaders' and teachers' attempt to transform instruction. School actors' and other actors' sense-making mediates the ostensive aspect of the routine by attributing different meanings to the original script or operating procedures. However, there is sometimes a gap between the ostensive and the performative aspect of a routine – or, what actually takes place in practice. As such, the performative aspect of a routine designates the course of action school actors actually take. School actors and other actors hold different meanings of what actions ought to be taken. The

performance of routines can both enable and constrain interactions and discussions among school leaders and teachers about instruction. Along with high stakes policy demands, routines shape how school leaders and teachers work together, and to what ends (Datnow, Park & Kennedy-Lewis, 2013). Organizational routines are, thus, crucial because they show which elements of instruction are reproduced and which ones are transformed over time (Hopkins, Spillane, Jakopovic & Heaton, 2013; Zoltners & Spillane, 2011). This concept also allows one to explore how accountability meanings shift the trajectory of organizational routines towards one accountability form at the expense of the other.

4.1.3 Sense-Making: Mediating Processes and Outcomes

To conceptualize how school leaders and teachers use accountability forms in their interactions about language arts instruction, I draw on the sense-making framework. Whereas accountability forms focus on broader (macro) meaning systems, sense-making focuses on meaning at the micro-level. This perspective, thus, enables one to explore how meanings mediate both the ostensive and performative aspects of organizational routines. More specifically, the framework allows uncovering how individuals convey meanings that shape and are shaped by school actors through social interactions (Hallett & Ventresca, 2006). Sense-making designates *how people notice or select information from the environment, make meaning of that information, and act on these interpretations, developing social structures, and routines over time*" (Coburn, 2006, p.345). Sense-making is, thus, an ongoing and social process in which school leaders' and teachers' socially construct meanings about different accountability forms in their environment. By attending to social interactions, I observe how these meanings are discussed, negotiated, and/or contested among school leaders, teachers and

other actors. In this sense, different leaders may hold different understandings of a script or operating procedures of what actions ought to be taken to improve instruction in relation to high stakes policy. Their understandings are constructed from multiple messages conveyed about how to bring about changes in language arts instruction. In the policy environment, there exist different accountability assumptions that carry different purposes, messages and ideas about how to conduct instructional changes. Taking into account that different meanings given by certain leaders dominate over others in the sense-making processes (Coburn, 2006; Schmidt & Datnow, 2005), I observe how these understandings shape which aspects of policy school leaders and teachers notice through interactions and discussions and how they attend to some policy messages while ignoring others.

4.2 Methodology

4.2.1 Data

This article is based on a secondary analysis of a qualitative dataset. The data were collected in eight elementary schools, as part of a four-year longitudinal study that took place from 1999 to 2003 (The Distributed Leadership Study, http://www.distributedleadership.org). For this paper, I selected Wayne Elementary School as a case study for two reasons. First, at the onset of the study in 1999, the district initiated a curricular reform in language arts instruction to achieve instructional program coherence in the school. Second, the school had a high concentration of diverse and low performing student subgroups (African American students, Asian, Hispanic and Native American students), which presented a particular challenge for improving instruction to meet higher standards (Hall & Ryan, 2011). Data gathering included interviews and observations of formal meetings conducted over a two-year

period (2000-2002). Administrative documents were also collected for analysis. The use of multiple methods (triangulation) (Denzin & Lincoln, 1998; Van der Maren, 1996) allows for an in-depth understanding of ongoing social processes between school leaders, teachers and other actors (e.g. district leaders, community members and university partners).

15 semi-structured interviews with leaders involved in the curricular reform at the first and second grade levels were selected for analysis[4]. All interviews were audio-taped and later transcribed. The data selected for analysis also include field notes gathered by Amy Coldren (2006), containing detailed narratives of the interactions occurring during the formal meetings and professional development activities. 16 observations of formal meetings served to unpack the features of organizational structures (i.e. discussions) and the improvisational aspect that came into play in the performance of these routines. In other words, how school leaders' and teachers' understanding of accountability manifested during the course of their interactions, which were observable at formal meetings (Feldman & Pentland, 2003).

Table 4. Professional Background of District Leaders, University Partners and School Leaders

Name	Position	Years of experience
Mrs. Greenfield	District Literacy Director	9 years in position; previously a reading specialist for two years, and a reading teacher for four years in elementary school
Mrs. Spencer	University Professor; Education and Director of the Reading Program	27 years in position
Mrs. Brown	Reading coach	Associated with Fluency Project; previously a resource teacher for 3 years and a teacher for 5 years
Mrs. Smith	Reading coach	Associated with Fluency Project; previously a teacher for 8 years and a reading specialist for 5 years
Mr. Curtis	Principal	3 years in position; previously 15 years in administrative positions;
Mary	First grade team leader	22 years in teaching
Marcia	Second grade team leader	23 years in teaching and 13 teaching at Wayne Elementary

Note. The school and all participants' names are pseudonyms.

[4] As used in this paper, the term 'leaders' designates those individuals who hold formal leadership positions: principal, grade team leaders, district leaders and university partners.

4.2.2 Data Analysis

I analyzed the data with the goal of uncovering school leaders' and other leaders' sense-making about the improvement of language arts instruction. First, I read all the transcripts observations and interviews, and selected those during which school actors and other actors discussed about language arts. Second, using QDA Miner, a software program designed for qualitative data analysis, and a coding scheme, I close coded key segments about language arts instruction across the dataset. I began to code with two broad categories: "bureaucratic" and "professional".–In total, I coded 85 segments, 28 segments pertaining to professional and 57 pertaining to bureaucratic accountability. I examined these segments with a view to identifying the repeated patterns of interactions, or routines related to language arts instruction. I thus identified 4 routines related to language arts instruction: the presentation of best practices, teachers' formal and informal evaluation, and the reorganization of instructional work. I then focused on the trajectory of one routine – the presentation of best practices- as the most frequent pattern of interactions over a two-year period. I recoded the interview and observation data based on the "best practice" routine, mapping evidence onto the timeline of discussions in formal meetings (see Addendum II). In so doing, I identified and analyzed how specific meanings were being conveyed through the use of bureaucratic and professional resources (research principles, data, standards, tests, and assessments) related to language arts instruction (Yanow, 2000). I also searched for patterns in the data to examine how these meanings structured interactions over the two-year period. Finally, I sought to identify the different and conflicting meanings about the routine of best practices and their implications for instruction.

Table 5. Coding Scheme for Analyzing Accountability Forms

Codes	Definitions	Assumptions	Resources
Bureaucratic	Increase scrutiny of school actors' work by establishing rules and regulations and ensuring that compliance is monitored and assessed.	1. Ensure compliance with federal, state, district or local curriculum standards and benchmarks 2. Reinforce administrative control through monitoring and assessment of school actors' work 3. Use data from various indicators to stimulate action	▪ State, district and local standards and benchmarks ▪ State standardized tests and district assessments ▪ Due process and teachers' evaluation
Professional	Increase school actors' individual sense of responsibility and collective expectations so that teaching and students' learning are placed at the center of professional work	1. Confer teachers decision-making authority (or leaves it to their professional judgment) 2. Teachers collaborate with others to set and maintain professional standards 3. Diagnose instructional work difficulties (and weaknesses), assess possible solutions, and select proper course of action 4. Monitor professional work using standards as a basis for evaluation and professional development	▪ Instructional knowledge and skills about language arts instruction (i.e. guided reading and writing) ▪ Research principles (i.e. self-monitoring, critical reasoning, diagnostic of instructional weaknesses and students' difficulties)

Sources: Firestone and Shipps, 2005; Garn, 2001; Leithwood, 2001; Ranson, 2003

4.2.3 Local Context

The district is located in an economically diverse community in the suburbs of Chicago. The presence of three local universities located in the area serves as a base of community support for education. The district serves K-8 schools and more than 7,000 students. Many of the district's schools have been named among the top State schools. The formal organizational structure is composed of a superintendent and a number of administrators and governed by the school board. The school board makes the major decisions on district budget, expenditures and resources. The board also developed the district strategic plan including input from local constituents (parents, teachers, staff and residents). The district centralized most decisions concerning local partnership with universities for professional development, district-wide instructional improvement initiatives, curriculum, assessments, and materials. The district designed and used the "Instructional Improvement Framework" to guide

schools in four areas of instruction: (1) effective planning of instructional, (2) implementation of standard-based curriculum, (3) utilization of best practice and (4) student-specific monitoring achievement. The district also adopted a new reading series aligned with Illinois Learning Standards for English Language Arts.

Wayne is a K-5 elementary school which served approximately 400 students in a small city outside of Chicago. 55% of students were characterized as low income and were eligible for Free and Reduced Lunch program (Coldren, 2006). The student population was composed of Caucasians (29%), African Americans (58%), Asians and Hispanics (12%). The school was not identified "In Need of School Improvement" according to the Adequate Yearly Progress (AYP) specifications under the provisions of the No Child Left Behind Act. However, it was on the Academic Watch list at the time of the study. In an effort to improve student achievement at Wayne Elementary, district leaders enacted a curriculum reform initiative to implement new practices in language arts instruction (Coldren, 2006). The Fluency project, a partnership between the District, Wayne elementary, and a local university, was designed to help teachers revisit their language arts instruction based on seven research principles: collaboration, assessment, grouping, materials, time/school organization, instruction. Reading specialists involved in the project, worked closely with the district literacy director and the local university partners to guide teachers in their classrooms.

4.3 Findings

4.3.1 Power struggles and conflicts: Shaping Instructional Improvement

The first major finding of this study is that the social structure of the school was composed of two levels: 1) the deeply rooted professional accountability structure of the school, and 2) the structural factors related to the organizational routine. I argue that the

school's weak professional accountability structure had greater impact in undermining school leaders' and teachers' efforts to improve language arts instruction than high stakes testing and standards. While standards provided school leaders and teachers with a common framework through which they redirected the topics of discussion about language arts instruction, power struggles and conflicts embedded in the professional accountability structure prevented them from creating mutual accountability, collective expectations for student learning and reaching instructional consensus to support ongoing instructional change across grades. Discussions among school leaders and teachers repeatedly exhibited these long-standing conflicts and tensions.

School leaders and teachers expressed how moving pass the power struggles, conflicts and ongoing tensions among themselves to focus collectively on instruction was challenging. One reason was that these tensions were historically embedded in their school's organizational routines. School leaders reported how teachers formed various alliances over the years, which led to strong individual work. Principal Curtis qualified Wayne's professional accountability structure as "being in turmoil" prior to his arrival. He stated: "staff was fighting each other, fighting parents, the kids". Mary, the first grade team leader, underscored that there was a history of conflicts among school staff, but also that the nature of these conflicts had evolved over time. She asserted:

> Even though we've had problems, <u>administrative problems before</u>, people were not divided down the same lines. They [teachers] were divided more for those who will stick their neck out and take the risk as opposed to those who were afraid to face the board or afraid to face a superintendent or something. […] And this division is much different. It has to do with I think new people coming in and old people still being here.

In this example, while Mary provided different explanations to describe conflicts among school staff, she argued that the nature of recent conflicts differed from earlier ones. She first underscored how conflicts were historically embedded in interactions among different groups of teachers, stating that former alliances were forged based on teachers' different relationships with the district: relationships of contestation versus relationships of compliance. In contrast, Mary believed that recent issues and tensions among teachers were the result of conflicting understandings and experiences between new and older teachers at the school.

While school leaders believed that achieving instructional consensus and consistency was essential to enable instructional improvement in language arts, they questioned whether they could overcome the power struggles and conflicts among staff. As Marcia, the second grade team leader, pointed out, "teachers' inability to reach agreement or consensus on any topics" limited their ability to work collectively. She described the interactions among staff as being "dysfunctional". Communication was another important issue that needed to be addressed in order to set collective expectations and share ideas about language instruction. As Betty, a second grade teacher, stressed:

> I know there's problems communicating. I think sometimes things get blown out of proportion, things get over emotional. But I think that most of the teachers here are committed to children. I mean there's a lot of weird stuff that goes on but I think that most of them are really committed to doing a good job. It's just that some people really have stubborn, stuck ideas and that's why there's clashes.

In this excerpt, Betty explained how sharing ideas among staff ignited conflicts. However, she insisted that conflicts among teachers did not indicate a lack of commitment towards students. Rather, she felt that these conflicts originated from opposing educational philosophies and ideas, and some individuals' unwillingness to hear different views. Principal Curtis also argued that communication among teachers, even in smaller group structures, was

dysfunctional. He explained: “when I first came here, this place was up for grabs and was in turmoil. And no one was talking to each other”. He added that the committees “weren’t functioning at all” because teachers did not “communicate and look at students”. Furthermore, Principal Curtis underscored how the district mandated him to “settle things down” and “get everybody back on track”.

Principal Curtis believed that instructional consistency across and within grades would help solve power struggles and conflicts among teachers and work to support instructional efforts. He observed:

> We all have to do the same thing pretty much the same way so that there’s this connection. You know this consistency. One thing about this place and still, there’s such an inconsistent delivery of the educational process. Even on, not only from grade to grade, but within the team structure. It’s helpful, believe it or not, if everybody’s pretty much on the same page.

Principal Curtis underscored the bureaucratic idea of instructional standardization by stressing how teachers “all have to the same thing pretty much the same way”. He also pointed out the idea of instructional consistency in order to create connection among staff and improve the delivery of the educational process. In so doing, he underscored the idea of strengthening professional accountability through instructional agreement by stating that “if everybody’s pretty much on the same page” would be helpful for instruction. Consequently, organizational routines riffed with conflicts and strong individual work came to structure how school leaders and teachers attempted to strengthen accountability structure (e.g. setting collective expectations, sharing instructional ideas) around language arts instruction.

4.3.2 Different Leaders' Sense-Making Mediate Processes and Outcomes

The second major finding of the study is that even though different leaders viewed the weak professional accountability structure as a potential constraint in implementation efforts, their respective sense-making mediated which aspect of the accountability forms teachers noticed, reproduced or ignored in the performance of teachers' presentations of the best practice routine. The original script included 1) the presentation by each grade-level team of a language arts activity or lesson, 2) the elicitation of the alignment between the lessons, content and instructional methods and standards, and 3) the account of teachers' goals and alignment with instructional activities. By comparing how university partners, district leaders and school leaders respectively understood and conveyed different meanings to teachers about the purpose of the same routine in two situations (faculty meetings and the Fluency project), I show how the original script of the routine carried conflicting professional and bureaucratic accountability forms about language arts instruction. I noted three contrasting patterns of meanings that enabled and/or constrained how teachers used best practices in their presentations: 1) instructional goals-oriented versus standard-focused, 2) providing a descriptive account of their instructional activity versus explaining the merits of specific instruction methods to their peers, and 3) leaving teachers to figure out individually new ideas versus supporting them to develop new ideas.

Faculty Meetings

In faculty meetings, when Principal Curtis first introduced presentations of teachers' best practices in the faculty meeting routine, he intended to build instructional consistency, share goals and disseminate different ideas about language arts instruction among teachers.

His understanding of best practice carried conflicting ideas of professional and bureaucratic accountability assumptions. Principal Curtis stated:

> "best practice is not really a practice. It's a philosophy of thought. Of effectively teaching over a continuum to maximize your educational approach for the students. It's not a lesson".

In this example, Principal Curtis' definition carried two accountability assumptions. One the one hand, he underscored how best practice describes, from a professional accountability assumption, a particular "philosophy of thought" and way of teaching "over a continuum to maximize educational approach for the students". His definition underscored the ideas of sharing knowledge, experience and understanding among teachers and the ongoing process of instructional improvement. On the other hand, Principal Curtis also understood best practice as a bureaucratic means to monitor and assess whether or not teachers used the same standards and benchmarks within grade teams. In his account, teachers' presentation could reveal "what was not happening in the classroom because you could see in the best practice effective teaching presentations that there were teachers who really didn't know what they were doing". His understanding focused mainly on teachers' weaknesses and non-compliance with reading standards as a means of instructional control.

In the performance of the routine, Principal Curtis' conflicting understanding of best practices transpired in the ways he conveyed the message to teachers. While the principal pressed teachers to prepare best practice presentations by grade teams, he struggled to convey a strong and clear message about the purpose of best practice for instruction. He attended exclusively to the bureaucratic ideas associated with his own understanding of the purpose of best practice presentations. For instance, the principal stated that the purpose of best practice was to show "some form of standards or alignments" with reading instruction. While Principal

Curtis stated one clear directive to link the presentation of their best practice with standards, he omitted providing an explicit explanation of the meaning of best practice and its purpose for instructional improvement.

School leaders and teachers were left to figure out how to produce and share new ideas about language arts instruction in sometimes tense team interactions. They struggled to understand the purpose and implications of best practices for instruction. As Betty, a first grade teacher, explained:

> I bet you half the people in that room have no idea what best practice is. If they have to define what the word 'best practice' is, I don't think most of them can do it. I know none of the new people know what best practices is; we've heard that term, we've heard it kind of floating around. But I don't think anybody knows exactly, could define it word for word. And the only reason I know it is because I'm taking graduate school classes and the person who wrote Best Practice book came in to teach for a class.

Betty expressed how "half the people" had no idea what best practice was. She also stressed how new teachers did not know what it was. She explained how best practice was a vague notion by insisting on how it was "floating around" without a clear definition. Betty underscored how she learned about best practice because she attended graduate school and the notion was taught in her classes. Other teachers also believed that the staff did not understand the conceptual implications of best practice. As illustrated in this example, Jean, a second grade teacher stressed:

> I don't think when he assigned it [best practice] he really knew what it was. I think that the purpose was to show what everybody's doing at their different grade levels. But he wants to see consistency. I think what he wants to see is spelling across the grade levels and he wants to see it looping so he can say what 1st grade is doing is helping 3rd grade, what 2nd grade is doing is helping in 5th grade. That's really what he wants to see. He doesn't quite get it that best practice is not what his vision is of Wayne School. So anyway it's something that Betty was concerned about because she wanted to do the right thing. But then nobody else was doing

> the right thing because nobody really knows what it is. It's a brand new buzz word.

Jean explained how she did not think Principal Curtis knew what best practice was. The second grade teacher explained how she believed that the principal had two goals: 1) to observe grade-level teams instructional efforts and 3) to observe consistency across teachers. She also stressed how Principal Curtis looked for "looping" across grades. Jean believed that Principal Curtis confused best practice with his vision of the school's changes. She stressed how her colleague wanted to do "the right thing" to comply with the expectations. However, Jean noticed how none of the grade-level teams were "doing the right thing". She stressed how best practice had become a "new buzz word" which served as a new label to designate teachers' existing instruction, even though people did not understand what it entailed.

When faced with doubts and uncertainties, teachers came to perform what they believed was expected by the principal, the one clear directive, "some form of standards or alignments". In their presentations, they focused mostly on visible outcomes by citing the alignment of classroom lessons with district standards and providing a descriptive account of their instructional activity. From a professional accountability perspective, their presentations also showed different degrees of instructional consistency within grade teams –including common goals and shared understanding. For instance, the second grade team was one of the two teams that exhibited strong instructional consistency. In the following example, when the team presented the best practice, all team members stood up. They began by reading the standard that pertained to their activity. They then stressed how they collaborated as a team.

> Marcia: Our goal is to show how we integrate the curriculum in our classrooms and also how we collaborate with our team. We think we need to highlight that. We are going to talk about how to integrate videos into our program.
>
> [This elicits some laughs from the teachers].

> Mr. Curtis [smiles]: Thank you. I want to hear that!
>
> Marilyn: When we do the "Balto" story, we start out by talking about Alaska. This integrates geography.
>
> Marcia: It [Ididerod Champions] is a bar graph so it is integrating math also.
>
> Judy: Then we introduce the vocabulary words. When using the video we stop it at different points to point out to the class the different vocabulary words.
>
> [At this point they show a clip from the video. After a few moments,]
>
> Judy: [pauses the video] which word was that. The movie makes all these words come alive. We are not saying we should show a video every week.
>
> Marcia: Videos have a purpose to them. We have found that visualizing is one of the most important comprehension skills. We as good readers create pictures....Often, they don't have a picture to draw from. The video takes a word like skidded and brings it to life.

In this excerpt, all four second grade teachers stood up front to emphasize their collective effort. They presented their shared purpose, instructional goals and collective understanding that led to the reading lesson. Teachers were all able to explain the reasoning behind the use of videos and the development of comprehension skills. They demonstrated a certain level of shared understanding as each of them selected and enunciated at least one standard they aimed to reach in relation to the presented lesson. They also exhibited some collective thoughts on how the lesson could integrate other subject matters.

Otherwise, most grade teachers showed weaker instructional consistency when they presented their instructional activities. For instance, when the fifth grade team showed weak instructional consistency. Only one teacher stood in front, and none of the other fifth grade teachers said a word. Barbara, the fifth grade teacher, began by reading numerous standards that were relevant to what she is about to present. She, then, stated:

> We are constantly looking for things to break it down...differential instruction. We have to take that into consideration. That is called "Brain Teasers" and there's an activity which is getting to know your classmates. I let them find out things about each other they never knew, like how I lived on a farm and it is getting a lot of positive talking. I am looking for quick writing things for getting some of these strategies going. This is something quick I can do in the morning.
>
> [She then reads another student's work.]
>
> I want to get them involved so they're seeing it. I use smells, music, sounds. You have to take this into the learning process now. Reading isn't separate from hearing, sensing, smelling, tasting, talking, are involved. All quick little openers and the pictures are great. This is another thing I am doing. It is getting involved; getting the visual that Patricia [third grade teacher] was talking about.
>
> Mr. Curtis: I want to thank 3, 4, 5. I think you can see this link. Fifth grade had some of the highest writing scores last year in the district. You guys wet the table for that.

In this example, Barbara, representing the fifth grade team, stressed how they had to take differential instruction into consideration without providing an explanation they used it in their instruction. She, then, continued by enumerating the type of instructional activities she did with her students in class. Barbara underscored how she relied on one book "Brain Teasers" to get new ideas about engaging students' in writing and using new strategies. She also stressed how she believed that all senses were involved in the learning process. In so doing, she used different instructional strategies to take into account her beliefs that all senses needed to be involved. Barbara also referred to Patricia's presentation, the third grade team leader, to support that claim. At the end of her presentation, Principal Curtis thanked all grade teams. He, then, recognized the fifth grade teachers' achievement based on their students' writing scores, but ignored the work presented by each team, or how each team exhibited instructional consistency.

By the second year of the study, Principal Curtis explicitly mentioned that teams did not understand the meaning of best practices. Stressing how teachers did not comply with his

expectation of best practice, the principal stated that the consequences would be reflected in their team and individual evaluations.

> Mr. Curtis: I will be meeting with teams next week and we will look at effective teaching. For your best practice presentations, you all presented things you are doing in the classroom and what you presented was "not best practices." Only one person asked me 'what's best practices Mr. Curtis'. You know who you are. We'll talk about that.
>
> Teacher: I would like to say something. Majority carries which doesn't always go in the right direction. Majority carries which doesn't always go [the way] that's best for the kids. Majority carries does not always work, if everyone isn't putting in their input.

In this excerpt, Principal Curtis explained that the next grade-level meetings would focus on effective teaching. He stressed the fact that their presentations were not a demonstration of best practices, and that no one had enquired about what best practices meant. Stressing teachers' non-compliance with his own understanding of best practice, the principal stated that the consequences would be reflected in their team and individual evaluations. One teacher expressed how "majority carries" even if it is not in the right direction. She underscored how teachers followed and reproduced the procedures elicited because they did not fully understand the instructional improvement process (i.e. how they collectively chose to focus on specific instructional goals). Consequently, even though the presentation of best practices was originally intended to bring about instructional improvement, the meanings conveyed during faculty meetings routine dominated the teachers' actual presentations and became a collective account of how they conform to and align their instructional activities with district standards.

The Fluency Project

In the fluency project, the district intended to use Wayne school as demonstration site to show how innovative instruction worked in a challenging context. Mrs. Greenfield, the

district literacy director, viewed the tense patterns of interactions among school staff as a result of teachers protecting themselves from the school's negative image. She explained:

> Wayne has a reputation of being the lowest achieving school. And, in fact, that's not true. It depends on what you're looking at and once disaggregated data as well - not only kids in sub categories or groups, but also by content area, you find that that's not the case. So one of the things we were trying to do is to say what we need to do at Wayne to help people see that - that it has a reputation it doesn't deserve on the one hand, and yet it is a challenging school. It is our highest poverty school.

In this excerpt, Mrs. Greenfield stressed how Wayne school had a reputation of being the lowest achieving school. She used the disaggregated data in subject matters and subcategories (i.e Hispanic, African American, etc.) to underscore how this reputation was false. In so doing, the district literacy director explained how the district intended to reconstruct the school's negative image. However, Mrs. Greenfield did acknowledge that it was a challenging and high poverty school. Consequently, from the district's understanding grew the idea of using Wayne school as a demonstration site and its teachers as instructional leaders.

Mrs. Spencer, the university partner and Mrs. Brown, the reading coach, explained how they were initially confronted with teachers' contentious patterns of interaction. Mrs. Spencer expressed: **"***everybody was resentful of being there and they weren't engaging*." She underscored how establishing trust and collaboration was challenging. University partner and the reading coaches believed that the initiation of the Fluency project was welcomed by teachers**.** As illustrated in Mrs. Brown's statement, the reading coach associated with the project:

> The way that the project came in was not really very well received. But I think that people were told conflicting things about why the project was going on. Whereas we thought we'd been invited but came to find out that it was really more like,

> "you have to do it or else you have to leave this school." So I think at first we were maybe like the messengers that they wanted to shoot. In other words, there were some suspicions about what our roles were and you know who we were reporting to. But because we kinda got in the trenches of taught side by side, I think that people really learned that we didn't have an agenda. And I think that this year it was just so different because that was established and we just got right to work and everyone's really gracious about it.

In this excerpt, Mrs. Brown stressed how the project was not well received. She believed that teachers were told conflicting messages about the intent of the project. While the university partners thought teachers welcomed the support, she insisted that they understood it as an imposition. She emphasized how they were told "you have to do it or else you have to leave this school". Since teachers' viewed their participation in the project as an imposition, Mrs. Brown explained that they were suspicious of the university roles and expectations. She underscored how teachers did not know if university partners' served a bureaucratic agenda. She concluded by stating that second year of the project, the relationship between university partners and teachers had evolved because teachers trusted that did not serve bureaucratic interests.

The district literacy director and university partners introduced best practice as a way to guide teachers into become instructional leaders for other teachers in the district. Mrs. Brown explained how they worked teachers to support teachers. She stated:

> We want this to be a demonstration school and we want them to be comfortable with doing demonstration and with not interrupting their teaching. We have enough teaching interruptions as it is (laughs).

Mrs. Brown underscored how they wanted to use Wayne as a demonstration site. She explained how developing teachers' demonstration skills was necessary so that they became conformable teaching in front of visitors and not be distracted. She stressed how there was enough teaching interruptions referring to transient student population.

In the performance of the routine, university partners and the district leader attended to teachers' instructional goals for lessons (practice). Teachers focused mostly on the processes of demonstration by explaining the merits of specific instruction methods and showing their peers how to teach a specific lesson. They were asked to demonstrate a lesson they had used in their classroom. In the following sequence, Sara, a first grade teacher, shared the instructional goal of a guided writing lesson.

> Sara: Mrs. Brown and Mrs. Smith have been coming in for guided writing. In the fall Mrs. Smith came in a lot....I'm doing a bear unit right now. What the kids had to do is I gave them a template with the four quadrants and they had to come up with their own bear story. They had to tell me the bear's name, the setting where it took place, the problem, and how the bear solved it. And then what we did was we took them and we made them into our own little bear book and this one is Patrick's and he's probably right in the middle...They have to write, they have to take the words in the quadrants and put them into sentences. Jeffrey is a brown bear. He is little. Jeffrey lives in the forest. The forest has lots of trees.
>
> Mrs. Spencer: Each page is a different quadrant?
>
> Sara: Right. This is one of my lowest kids....and his was very simple. His was only one sentence for each. Max is a brown bear. Max lives in the forest. Max was going to get some berries and got lost and his mom and dad found Max in the forest.
>
> Teacher: Not bad!
>
> Sara: And he did this all by himself...And then for my high kids, I told them, they wrote their first sentence down and then I said to them well now you have to go back and you have to explain in more detail instead of saying, you know.
>
> Mrs. Spencer: Set the bar a little higher.
>
> Sara: Right. I said, you know, stories aren't exciting unless there's a lot of details. So, on the first page they had to write, everything had to be...
>
> [She reads another one].
>
> Sara: Jeffrey is a brown bear. He is a great bear...he went through the forest. Once, Jeffrey was walking near a stream down by the water. There was a tree nearby, he grabbed a branch and pulled himself out.

> Mrs. Spencer: This is something that really can be differentiated. Differentiation differs for reading and writing. Differentiated writing is more tangible or easier to do.
>
> Sara: I've been using the four quadrants with my kids. They know them as quadrants.
>
> Mrs. Spencer: Using academic vocabulary, good for you.

In this example, Sara began by introducing her guided writing lesson. She stressed how the two reading coaches came into her classroom. She described the different steps of the lesson with the students. She explained how she used the four quadrants, an organizer, to teach writing a story. Mrs. Spencer, the university partner, inquired how she used the quadrants. Sara explained how her low achieving student came to write by himself, and how she set expectations for her high achieving students. Mrs. Spencer stressed how Sara should raise students' by setting "the bar a little higher". Sara read another student's work. Mrs. Spencer focused on how the teacher could use differentiate instruction in her activity. She concluded by providing positive feedback on the teacher's use of new academic vocabulary to teach concepts to kids such as writing organizers (i.e. quadrants).

University partners and teachers collectively worked on the development of demonstration capabilities (i.e. describing the steps and goals of a lesson), modeling the processes (i.e. explicating their thoughts and expected teaching skills) and the presentation of different materials (i.e. lesson templates). Consequently, while the presentation of best practices was originally intended to support teachers in becoming instructional leaders, the meanings conveyed during the fluency project routine represented in teachers' actual demonstrations and became a collective sharing and explanation of the merits of specific lessons among first and second grade teachers.

4.5 Discussion and Conclusions

I showed the contributions of organizational routines and sense-making as analytical tools to explore how two accountability forms are understood and enacted in the implementation of a new routine related to language arts instruction. More specifically, I showed that the social structure of one organizational routine and sense-making are dynamically interrelated at two levels: 1) the deeply entrenched conflicts and power struggles among school leaders and teachers both enabled and constrained discussions inside the school, and 2) the professional and bureaucratic accountability forms conveyed shaped the sense-making processes and the outcomes related to language arts instruction in one organizational routine. In so doing, I build on and extend the existing literature in two ways.

First, I underscored how the taken-for-granted professional accountability structure among school leaders and teachers in the school worked against reorganizing language arts instruction across grades. While some structural factors such as the type of culture leaders created in structured groups (e.g. inquiry versus compliance), the degree of heterogeneity within groups and the extent to which structured discussions provide conditions for deep engagement and reflection (Coburn, 2001; Datnow, Park & Kennedy-Lewis, 2013), the findings underscored how ignoring the structural factors, most specifically power struggles, opposing educational philosophies and conflicts, limited them from engaging in deep and reflective discussions collectively about the content of the presentations in language arts instruction. By looking at teachers' presentations of their best practices, I underscored school actors' difficulties to engage in deep and reflective discussions partly due to the weak professional structure in the school, rooted in conflicts and divisions (Coburn, 2001). Setting new rules for talking and sharing instructional ideas as part of the routine, thus, appeared an

essential structural factor (Coburn, 2001; Datnow, Park & Kennedy-Lewis, 2013). Consequently, the weak professional accountability structures among school actors had greater impact in undermining school actors' collective attempt to improve instruction than high stakes standards.

Second, while the findings corroborate other sense-making studies that have illustrated how different leaders played unequal parts in the process (Coburn, 2006; Schmidt & Datnow, 2005), I also showed how the complexity of sense-making processes mediates the ostensive and performative aspects of the organizational routine. This complexity of sense-making unravels in the various interpretive and influential processes – including the tensions and contradictions - that go on in the performance of the routine. The findings illustrate how different leaders came to convey contrasting meanings and reinforce, sustain or change the ways teachers performed their presentation of best practices related to language arts instruction. These processes involved 1) how different leaders directed teachers' attention on instructional goals versus standards; 2) how different leaders guided or not teachers' presentations of their best practice in the performance of the routine (e.g. sometimes teachers were left to figure out individually what to present and how, sometimes they were guided by leaders to explain and engage in the development of new ideas); and 3) how the performance of the routine provoked or not teachers' engagement in reflective discussion (a descriptive account of instructional activity versus modeling the process of instructional activity). For instance, the findings demonstrate how different leaders directed teachers' attention to the bureaucratic or professional accountability forms had different consequences on teachers' sense-making and performance of the routine, Some leaders directed teachers' attention on bureaucratic outcomes requiring them to describe and report on their efforts to comply with

and align their classroom instruction with standards. Other leaders directed teachers' attention on professional means and processes asking them to explain their thought processes involved in their efforts to improve practice. In the faculty meetings, teachers mostly focused on the compliance of lessons with standards. While university partners also used district standards and benchmarks, setting students' learning outcomes to improve instruction, they also focused on teachers' ownership by showing them how to use standards to set instructional goals and activities as teams. For instance, in the faculty meetings, teachers provided a descriptive account of instructional activities – including the procedures of aligning instruction with standards, but school actors paid limited attention to the content of instruction (guided instruction principles and ideas). In the fluency project, university partners attended to the processes by asking how teachers set their instructional goals for the given lesson and the different steps and the instructional methods they took to reach goals in their daily instructional activities.

These findings also shed light on how the multiple sense-making processes transformed the original script of the best practice routine intended for instructional purposes into bureaucratic conformity demands over time. By focusing exclusively on district standards, the repetition and focus of teachers' attention reinforced the bureaucratic accountability form by insisting on compliance with standards transformed into the establishment of conformity with bureaucratic expectations. This focus on outcomes also came to shift and dominate over the meanings conveyed by university partners because of the lack of communication and coherence about the purpose and use of the routine between these different leaders. While some teachers showed doubts and uncertainties about the purposes and expectations of this routine, the findings also suggest that compliance and conformity in a

system governed by rules and regulations are understood as a "secure and suitable way" to respond to what may be mistaken as a bureaucratic demand (Metha, 2013).

A key implication of these findings for educational policy implementation is that bureaucratic accountability underestimates the influence of the social structure. The existing professional structure can both enable and constrain the design and enactment of routines in curriculum and instructional reform efforts. Given that tools on their own cannot solve power struggles and conflicts embedded in the social structure, their implementation in practice may shift into bureaucratic conformity rather than instructional improvement. Findings suggest that different and conflicting meanings complicate the understanding and enactment of routines. Policymakers assume that school leaders and teachers implicitly understand the nature and process of new routines to improve instruction. However, in low-performing, low-capacity schools, school leaders and teachers may not understand which aspects of instruction need improvement so that they can remedy them on their own.

CHAPTER 5: DISCUSSION AND CONCLUSION

In the past three decades, issues related to education policy implementation have changed considerably as policies have multiplied, increased in depth and complexity, and now place greater emphasis on accountability. These changes represent a significant shift in school leaders' and teachers' work – departing from targeting certain students to reach basic minimum standards through discrete programs and procedural changes to ensuring that all students achieve ambitious academic standards through systemic, deep, large-scale curriculum reform initiatives (Honig, 2006). Policies have also significantly expanded the range of instruments (e.g. curriculum framework, academic content and standards and testing systems) available to school actors, producing some conflicts between the different theories of action on how to achieve desired changes. School leaders and teachers are confronted with instruments aim to reinforce bureaucratic control (e.g. *Adequate Yearly Progress measure,* corrective actions, sanctions) while others give them more professional leeway to build capacity to improve teaching and learning (e.g. professional development, best practices, professional community). School leaders and teachers are, thus, called to understand and evaluate on a day-to-day basis an overwhelming number of policy messages, instruments and ideas within the public educational system that converge on their schools. They are left trying to make sense of the multiple policy messages, competing ideas, and divergent expectations conveyed by different system and extra-system actors, and figure out which ones to focus on, which ones to prioritize and which ones to ignore. Unpacking this multidimensionality is crucial, for it provides a foundation for understanding how and under what conditions school leaders and teachers respond to policy messages in different ways. Concretely, it entails examining, out of multiple policy messages, a) how school actors understand the policy messages about teaching

practice, or what they understand themselves to be responding to, b) the legitimacy they attribute to policy as detailed in Spillane and Anderson (in press), and c) why some messages are more influential and/or persuasive than others in shaping curriculum efforts. The use of two theoretical frameworks enabled me to shed distinct light on the multiple and simultaneous policy messages that converge in the same school in two ways. By using the sense-making and rhetorical argumentation frameworks as complementary analytical tools to explore curriculum reform in two high stakes subject matters, I examine both the micro-processes of school leaders' and teachers' schemas of teaching and learning and the meso-processes of the social structure in their school regarding the high stakes policy (e.g. standards, tests) that enable and constrain policy implementation. To this end, I focused my research questions on (a) to better understand the social processes that shape school actors' strategic responses to high stake state and district policies in regards to a mandated curriculum and instruction in mathematics; and (b) to analyze how accountability forms and ideas from the policy environment and the day-to-day activities play out in interactions among school leaders and teachers about language arts instruction.

Sense-making theory holds promising opportunities for helping us to better understand the complexity of making sense of and juggling federal, state and district policy messages and instruments as one key dimension of the implementation process (Weick, 1995). Many implementation accounts still assume that policy messages and information have to be interpreted the "right" or "correct" way in order to achieve desirable changes or lead to organizational and individual learning. Sense-making theory reminds us that policy messages and instruments will lead to plausible rather than accurate responses to external demands. Policy messages and instruments by nature carry different or equivocal meanings. As such,

while system actors may face contradictions and/or ambiguity, they may not interpret the messages as intended. However, these divergent meanings under some conditions, may still lead to positive consequences. Hence, this lack of accuracy becomes an issue for only short periods of time and with respect to specific questions (Weick, 1995).

As to rhetorical argumentation, the framework holds promise for helping us to understand how topics are negotiated, debated and/or contested. Studying argumentation is key for understanding the processes that shape how school leaders and teachers respond to policy demands. Rhetorical argumentation analysis shows how school leaders and teachers position themselves, and highlights the logical reasoning and arguments that influence their decisions. Paying attention to rhetorical appeals as modes of persuasion evoked by participants to convey different policy messages enables us to explore how actors use logic, persuasion and power to influence school leaders' and teachers' sense-making processes (Coburn & Woulfin, 2012). It can also shed light on what factors enable and constrain different participants' ability to influence, negotiate and persuade leaders and teachers during the implementation process.

The purpose of this dissertation was to examine how high stakes policy operates in everyday interactions and practices in schools. I paid attention to the different policy messages conveyed to school leaders and teachers about the ways to bring about substantial changes in curriculum and instruction. In so doing, I looked at the social processes and conditions that shape school leaders' and teachers' responses over time. More specifically, I explored how school leaders' and teachers' various interactions with district leaders and university partners shaped how they come to understand policy messages. *I used an exploratory, qualitative case study approach* (Yin, 2009) to investigate the issues in one low-performing elementary school in the Chicago area. I conducted a secondary analysis of an existing rich qualitative dataset

gathered over two years (2000-2002) and containing the multiple policy messages and ideas that were conveyed within the same school during that period.

5.1 Reforming Teaching and Learning in Two High Stakes Subject Matters in a Low-Performing School: A Cross-Case Analysis

Over the years, many curriculum reform efforts have sought to improve the quality of instruction. As such, both the accountability and the standard-based movements aimed to push the system actors towards higher instructional goals, ambitious curriculum content in order to achieve performance standards and monitor ongoing progress through the use of standardized tests data. In this context, language arts and mathematics have become central accountability measures by which districts and schools are assessed. To improve the quality of instruction, districts and schools often deploy curricular reform initiatives as important means to raise students' performance in these high stakes subject matters. At the time of this study, two major curriculum reform initiatives were ongoing at Wayne elementary school in both mathematics and language arts. While both initiatives intended to improve instruction and test scores, there were differences in the ways the implementation process was conducted. In this section, I compare and contrast the two cases presented respectively in chapters 3 and 4 of this dissertation. I begin by briefly discussing how subject matter played out in the two reform initiatives. I then focus on the roles of different formal leaders in the implementation process, with attention to how subject matter may have mattered in the ways in which they played those roles. In so doing, I seek to offer some possible lines of future investigations.

5.1.1 Subject matter subcultures mediate school actors' conceptions and practices in curriculum reforms

Some scholars have studied how subject matter subcultures[5] mediated principals' and teachers' conceptions and responses to reform proposals in K-12 schools (Burch & Spillane, 2003; Coldren, 2006; Grossman & Stodolsky, 1995; Spillane, 2005; Stodolsky & Grossman, 1995). They have shown how principals' and teachers' views of the levels of control over content coverage, coordination among teachers, and instruction varied depending on the subject matter. For instance, mathematics teachers expressed having less freedom and autonomy over their decisions about content (i.e. topics, skills), curricular materials, and instruction (Grossman & Stodolsky, 1995; Coldren, 2006). These studies have also illustrated how teachers' schemas of teaching different curricula - including the nature of the teaching field - and their beliefs, values and norms also varied depending on the subject matter (Stodolsky & Grossman, 1995). Results have shown how mathematics teachers viewed the curriculum as being more static and highly more sequenced. They believed that the acquisition and mastery of prerequisite skills and knowledge were necessary to progress to subsequent content. In these same studies, English teachers viewed the curriculum as more permissive, more negotiable in nature and with a broader scope of instructional approaches.

The findings presented in chapter 3 showed how the curriculum reform in mathematics represented a challenge for elementary school teachers for two reasons. The mandated curriculum required fundamental changes in understanding the shift in the subject matter subculture nature. First, considering that elementary teachers have limited mathematical knowledge, my findings underscore how they struggled to understand what the new

[5] Subject matter subcultures designate different beliefs, norms, and practices that affect teachers' work and responses to reform efforts. In addition, these conceptions of subject matter create a "conceptual context" that helps frame the work of high school teachers (Grossman & Stodolsky, 1995).

curriculum ideas involved for teaching and learning mathematics. One struggle was to change their understanding of mathematics in terms of memorizing and applying rules and algorithms towards reasoning more like a mathematician. Second, the mandated curriculum departed from its traditional subject matter subculture involving the acquisition and mastery of prerequisite knowledge and skills and shifted towards an inquiry-based approach, focusing on the development of critical thinking and investigation skills and using symbols and numerical representations to solve mathematical problems. The changing nature of the mathematical subculture remained school leaders' and teachers' enduring concerns over the two-year period of the case study.

In comparison, as shown in chapter 4, school leaders and teachers appeared to be better predisposed (e.g. in terms of instructional skills and knowledge) to the instructional reform in language arts. They expressed less concerns and frustration over the instructional changes during the two-year period. They viewed the initiative as a tweaking of their existing classroom instruction. As illustrated in the case of language arts instruction, teachers presented their best practices that showed varying degrees of instructional consistency -including common goals, shared understanding as well as varying degrees of integration of guided reading and writing principles- one of the intents of the instructional reform. This may indicate how a broader scope of instructional approaches was deemed more acceptable, illustrating the more permissive nature of language arts as opposed to mathematics. School leaders and teachers did make some instructional changes in regards to their focus on the visible outcomes of their best practices by eliciting the alignment of classroom lessons with district standards. However, the extent of teachers' instructional efforts to change cannot be confirmed without classroom observations. These observations beg the question: how do school leaders facilitate

instructional improvement considering that teachers' knowledge, beliefs and instruction may vary depending on the subject matter? How do teachers' learning experience of new curriculum and instructional changes vary based on the subject matter?

I now turn to comparing the ways the formal leaders involved in the reform initiatives conducted the implementation activities. The leaders in question include the district leaders, the university partners, the math cadre teacher and the principal. While comparing how they played their respective roles, I explore the extent to which the differences observed are related to the subject matters.

5.1.2 Comparison of the role of different formal leaders in implementing the two curriculum reforms

District leaders

The findings also suggest that subject matter subcultures may also mediate how district leaders view and enact curriculum and instructional reforms. First, district leaders' different conceptions of the subject matters seemed to influence how they exerted curricular control and pressures in the implementation of curriculum and instructional change. The district leaders, more specifically the district Literacy Director and the district Assistant Superintendent, exerted different curricular control over each curricular and instructional reform in the ways they expected the curriculum to be implemented. In mathematics, the district believed that the mandated curriculum had the ability to make students stronger mathematically, and prepare them for the upper grade levels. The district Assistant Superintendent justified the selection of the program based on the richness of the language and allowed students to discover and learn about sets, probability and statistics at a very young age. The district, thus, used the mandated

curriculum[6] as the main material artefact to induce local instructional changes, and the district leaders expected school actors to fully comply with it. They consequently exerted greater curricular control and pressures to ensure that teachers would follow the prescribed scope, sequence and pace. In contrast, in language arts, the district leaders sought to improve instruction based on guided reading and writing principles. The district did not expect school actors to implement a unique curriculum, or comply strictly with its scope, sequence and pace. The curriculum itself, was less structured and represent a similar logic of the language arts subculture. The curriculum incorporated reading comprehension and vocabulary. Teachers had the flexibility to alternate lessons, materials and instructional methods. The curriculum also encompassed a chart level that enabled teachers to match and group students with appropriately leveled materials. In so doing, they did not use curriculum as the core of the reform initiative, but instead used the curriculum as an additional material artefact to achieve the desired instructional improvement. They left greater autonomy and flexibility to teachers to adapt curriculum (e.g. sequence, pace and scope) in order to achieve instructional changes.

Second, the district leaders' enactment of curriculum and instructional initiatives also varied depending on the subject matter subculture. They viewed and designed different types of teacher professional development activities in terms of frequency, length and scope. For instance, the district invested more time and human resources in professional development associated with language arts instruction than in mathematics over the two-year period. In language arts, the district Literacy Director initiated a two-year partnership with a local university to support teachers' instruction in their classrooms on a daily basis. Reading specialists and reading coached modeled for teachers in their classrooms by teaching specific

[6] This is a policy strategy that implicates using a single curriculum for the entire district -including pacing guides (scope, sequence, pace) - to ensure fidelity to the instructional approaches (Coburn, Pearson & Woulfin, 2010).

lessons. In addition, the District Literacy Director, the university partners, reading specialists as well as teachers held a meeting on a monthly basis to discuss ongoing instructional difficulties and improvement and students' learning progress. To achieve better students' performance, the district also reduced group sizes of students in grades k-2.

In mathematics, the district designed two initiatives to support teachers in implementing the mandated curriculum and changing their instructional practice over the two years. In the first year, the district partnered with a local university, holding a 10-day professional development workshop, designed to support teachers in changing their schemas and pedagogical methods in mathematics. In the second year, the district reinforced the presence of mathematical assistance to monitor ongoing progress by requesting that the Math Cadre teacher meet periodically with teachers. In so doing, the Math Cadre teachers ensured that they followed the pace and sequence and answered any questions teachers may have had about the units.

These findings suggest that the subject matter subculture mediates district leaders' conceptions and how they exert curricular control and design local support in curricular reform initiatives. Further investigations would be beneficial to better understand the role of district leaders' conceptions of subject matter and how these conceptions subcultures their enactment of curriculum and instructional reforms. This raises a numbers of questions: How do district leaders' conceptions of subject matter related to the subcultures influence curriculum and instruction efforts in terms of planning and designing teacher support (e.g. frequency, scope and length) and instructional tools? How are resources allocated, and how are curricular control and pressure exerted in reform initiatives based on these conceptions?

Non-System Actors

The nature of university partners' dialogue is a striking feature of the way they played their roles in both reform initiatives. Indeed, in the three professional development situations that were analyzed (mathematics workshops, district assistance sessions and the fluency project), I observed differences in the type of dialogue between school actors and university partners. The findings suggest that there exists a variety of instructional discourse, leading to different types of dialogical engagement among teachers. There are three types of dialogue that I have been identified: the pedagogical (both contextualized and decontextualized) and the didactic (or direct transmission). Pedagogical dialogue (decontextualized) involves "an intentional process in which a teacher [the university partner] "leads" a student [teacher], through questioning and guidance, to formulating certain answers or understandings" (Burbules & Bertram, 2001, p. 14). The decontextualized aspect refers to the limited attention to the where people speak (e.g. the physical setting and circumstances of the school) and the how of the interactions (e.g. the various ways teachers talk and express meaning). In contrast, the contextualized aspect designates the attention paid to the local circumstances in which dialogue takes place. The didactic (or direct transmission) dialogue refers to "transmitting facts or processes, explaining the what, why and where of [teaching] the subject matter and presenting new knowledge using known principles and logic" (Bar Tivka, 2010, p. 657).

I noted how these types of dialogues framed modes of interactions and inquiries and created different areas of negotiability, both opening and closing some topics of discussion. Interestingly, the nature of discourse differed across subject matters. In mathematics, university partners engaged in decontextualized pedagogical dialogue with school leaders and teachers. The nature of this dialogue enabled an open-ended inquiry that engaged school actors

in a critical reasoning process about the role of student representations in teaching and learning mathematics, student participation in classroom discourse and other problem-solving methods. In this type of dialogue, school leaders and teachers experienced the learning processes of the reformed curriculum. University partners paraphrased teachers' explanations, asked a series of questions to push teachers' reasoning about mathematics, and did not provide direct answers or solutions so that teachers could reach their own conclusions. In so doing, open-ended inquiry may have set some parameters to engage teachers in observations, analysis and self-discovery as a learning process. However, university partners focusing mostly on this type of discourse also limited discussions about practical issues related to high-stakes standards and tests. In comparison, the Math Cadre teacher engaged in didactical (or direct transmission) discourse with school leaders and teachers. The nature of direct transmission discourse enabled school leaders and teachers to obtain concrete, and focused answers on specific units in the textbooks, usage of materials in classroom activities and any instructional issues teachers encountered. However, this type of dialogue also limited more open-ended discussions of ideas because the Math Cadre teacher remained focused on specific lessons, content and materials. While the decontextualized pedagogical and direct transmission dialogues may appear as complementary, I observed that both discourses left some of the school actors' persistent concerns unaddressed (e.g. the lack of basic skills and computational knowledge in the mandated curriculum).

In language arts, the university partners engaged in contextualized pedagogical and direct transmission dialogues with teachers. They paraphrased teachers' explanation, used different material artefacts (e.g. charts indicating students' ongoing progress) and benchmark as a collective tool to show students' progress over time in relation to both curriculum

(knowledge, content and materials) and students' work to anchor instructional changes. Dialogues covered topics grounded in the teachers' day-to-day experiences (i.e. students' work and difficulties) and teachers' presentations of their use of new materials and instructional methods in their classrooms.

Considering the spectrum of instructional discourse, going from a mode that is more focused on the specific aspects of the curriculum materials and the teaching of content (direct transmission) to open-ended modes of inquiry (pedagogical) about curriculum and instruction (Burbules and Bertram, 2001), further investigations could explore the nature of discourse between school actors and extra system actors in specific professional development activities. In so doing, these investigations may consider how the nature of discourse set some areas of negotiability and the parameters of argumentation about curriculum and instruction. By attending to different areas of negotiability, researchers could also seek to better understand how the type of dialogue engagement can both enable and constrain school actors' understanding and arguments about the negotiable and non-negotiable areas in new curriculum and instructional methods. This may be an interesting line of theoretical and empirical investigation to better understand how the type of dialogue enable teachers to talk with one another about curriculum and instruction.

These findings also suggest the importance for university partners to know and mobilize different resources from the policy environment. This raises the question of university partners' ability as rhetors in attempting to influence and persuade school actors' to achieve expected instructional changes. As suggested by Coburns & Woulfin (2012), the political dimension of the university partner-school actor relationship appears crucial. I observed how university partners who understood and used standards, benchmarks and

standardized tests seemed to have gained in legitimacy and influence among school actors. For instance, in mathematics, university partners sometimes struggled to reassure and convince teachers when it came to justify how the reformed curriculum prepared students for the requirements of high stake standards and standardized tests. In comparison, university partners in language arts invoked different rhetorical appeals –including high stakes standards and benchmarks that enabled them to persuade school leaders and teachers to implement instructional changes without having to confront their beliefs and conceptual understanding.

These few observations suggest that the role of university partners may involve the educational dimension as well as the political one. For instance, while university partners played an educational role to support the implementation of curriculum and instructional changes (e.g. providing advices), the findings suggest that the political role may also be crucial. Some university partners seemed to be more skillful in their use of different rhetorical appeals to influence and persuade teachers to implement curriculum and instructional changes. These findings also suggest that part of the university partners' skills involves their knowledge and mobilization of the policy resources (e.g. standards, tests, benchmarks) to invoke authority and reinforce their statement about instructional change. Further investigations could, thus, explore and compare the role of different university partners in order to analyze how they use different rhetorical appeals and mobilize resources to negotiate, influence and convince school actors to make expected changes. This begs the question: How do university partners gain in credibility and authority among school actors? More specifically, what are the different appeals and propositions that convince on short and long terms?

Principal

Some studies on subject matter subcultures have also demonstrated how principals had different views about the sources of expertise depending on the subject matter (Burch & Spillane, 2003; Spillane, 2005). For example, these studies showed how the subject matter mediated principals' conceptions and use of expertise. In the case of language arts, principals perceived more sources of expertise internally, and thus more possibilities to distribute leadership roles to reading specialists to guide discussions in team meetings, grade level meetings, curricular committee meetings. In contrast, most principals in these studies sought expertise externally to support instructional improvement efforts in mathematics.

In the two case studies, I noticed similar observations about Principal Curtis' use of expertise. His use and distribution of expertise to support teachers' enactment of the two curriculum reform initiatives followed the same pattern found in the studies mentioned above. In terms of professional development activities, Principal Curtis relied on local experts such as the reading specialists and grade-level team leaders to take on leadership tasks and responsibilities in the Fluency project. In mathematics, he relied on the external expertise of the university partners and the Math Cadre teacher, the district assistance sessions, to support teachers' implementation of the mandated curriculum.

In terms of day-to-day interactions, Principal Curtis did take a leading role in the curriculum and instruction efforts during the faculty meetings. However, I noted some differences in the time devoted to each subject matter, the use of high stakes standards and tests and the implementation strategies. I noticed how Principal Curtis spent double the time on the topic of reading with staff than mathematics. In the course of discussions about curriculum and instructional reforms, he used high stakes resources (e.g. standards,

standardized tests and benchmarks) differently depending on the subject matter. When Principal Curtis talked about mathematics with staff, the discussion focused mostly on standardized tests and scores. When he talked about language arts instruction, discussions focused mostly on standards. This raises the question of how and why leaders may appeal to different high stakes texts depending on the subject matter. Or how appealing to either standards or standardized tests may structure the conversations differently?

5.2 The Strengths and Limitations of Secondary Analysis of Qualitative Data

Before I began data analysis, I first had to gain a better understanding of the U.S. educational system – including the diverse roles and responsibilities of system actors such as superintendents and district curriculum specialists and their relationship with schools, and the influence of governing bodies (e.g. School boards, school improvement team committees, parent-teacher associations). In order to do this I took two trips to Chicago. My first trip consisted of a three month stay in Evanston as a visiting scholar at Northwestern University, where I had various conversations with the lead researcher and graduate students from the primary study team about the situation of Chicago public schools. On my second trip, I expanded my investigation through informal conversations with parents, students and citizens that enabled me to understand their views on public education, the No Child Left Behind Act, accountability and standardized tests.

Secondary analysis of qualitative data has strengths and limitations. Qualitative data by nature is very rich and provides numerous possibilities in producing new knowledge, hypotheses or supporting existing theories (Hinds, Vogel & Clarke-Steffen, 1997). There, thus, is value in doing secondary qualitative analysis. One analysis by one researcher cannot

grasp completely the richness and complexity of such data. The same dataset can serve for several research purposes and analyses. Some methodological approaches may be more promising than others in conducting secondary analyses because of the numerous analysis possibilities they offer. The case study design provides an in-depth and detailed account of social reality that includes multiple participants and data sources. This approach enables secondary analysts to reframe and refocus on different issues related to the same research object (Paillé & Mucchielli, 2008). A new researcher may also provide a fresh look and different understanding of the same issues. In this dissertation, the data focus on curriculum reform efforts in one elementary school and were collected over a two-year period through observations of various settings and interviews with diverse participants in the school (principal, curriculum specialists, university partners and teachers). The original study focused on how the second grade teachers made sense of the two curriculum reform initiatives. I aimed to build and extend on the original work by including other participants and using different theoretical framework.

Doing secondary analysis may require gathering missing information. I noticed that two types of data can be missing: 1) data that the lead researcher did not gather because it was not critical in the original research questions; 2) contextualized data the secondary analyst needs to better understand some local issues while doing the analysis (e.g. the content of curriculum). Some information are easily available through websites. For instance, I looked for information about the mandated curriculum on the Publishers' websites in order to gain a better understanding of its underlying educational philosophy – including content, structure, instructional goals and methods. I also retrieved information on the District's website. Administrative documents that were not available online – such as school improvement plans,

the board's policy, and other public archives – were obtained from communicating with district officials through email. Doing secondary analysis may also require to read and consider the primary analysis −in this case, Amy Coldren's dissertation−to make sure that the subsequent analyses of the same qualitative data do not duplicate her findings. These findings can serve to shed light on the same phenomena using different perspectives or focusing on different groups of participants (Hinds, Vogel & Clarke-Steffen, 1997). I built and extended Amy Coldren's work (2006) on curriculum reform initiatives by attending to the social processes of influence, persuasion and authority that shape implementation.

Secondary data analysis can be challenging and tricky considering the lack of intersubjective understanding involved in the researcher-participant relationships during data collection (Heaton, 1998). Data analysis and interpretation thus requires careful consideration. Receiving ongoing feedback and guidance from the lead researcher of the primary study is an important way of reducing any bias or over-interpretation of the data, and therefore I discussed my findings with him on several occasions (Heaton, 1998; Hinds, Vogel & Clarke-Steffen, 1997). The challenge is greater if the data were gathered in an educational system with which one is not very familiar. This added dimension requires much time investment and caution in order to understand cultural differences and subtleties.

Secondary analysis of qualitative data also presents certain limitations. First, new investigations cannot differ considerably from the research questions of the primary study or theoretical framework (Hinds, Vogel & Clarke-Steffen, 1997). For instance, one of the objectives of the initial study was to explore how school leaders made sense of different accountability forms. However, my research questions differed significantly from those asked in the primary study, which left many questions unanswered (e.g. little information about the

market based influence in the school). Therefore, I narrowed my research questions to reduce the distance between them and the ones explored in the primary study.

5.3 Contributions

One contribution of this dissertation is to the literature on high stakes policy and curricular reform efforts as it explores the individual and social processes that shape school leaders' and teachers' strategic responses to high stakes policy. Even though high stakes testing put tremendous pressures on school actors, some studies tend to underestimate that in the midst of high stakes demands still lies school actors' agency. I argue that policy messages by themselves do not have the power to turn professional actors into technicians. Rather, my findings suggest that school leaders' and teachers' strategic responses to high stakes policy and mandated curriculum exhibited the reinforcement of some persistent beliefs, values and prior knowledge about what constitutes effective instructional methods rather than simply developing tactics and strategies at the expense of the quality of instruction and experiences for students. Therefore, by analyzing what lies beneath the surface – in this case individual and social processes, and not solely the visible outcomes, these findings suggest a more complex story than provided by the literature. Through the use of a rhetorical argumentation framework, I was able to show how school leaders' and teachers' overt strategic responses to high stakes policy and new curriculum demands (for example, narrowing content, focusing on basic skills and knowledge) hide deep structures, illustrated through their schemas including values, beliefs and prior knowledge about teaching and learning mathematics, which shaped and guided both individual and social processes. In so doing, what McNeil (2000) described as a "desire to reduce content to its simplest form", can be challenged by the fact that school

leaders' and teachers' insistence on basic knowledge and skills reflected commonly held schemas about what low-performing students needed to learn mathematics and counterweight experiences outside of school (Spillane, 2001). Findings also demonstrate that in their struggles to understand new curriculum ideas and their genuine efforts to implement them, school leaders and teachers referred to tests and standards as logical resources in order to clarify the conflicts provoked between their schemas for teaching and their understandings of what the new curriculum ideas and state and district tests and standards expected. Although different leaders stated clearly and explicitly that state standards and standardized tests played a decisive role in students' learning, they were less clear about how the new curriculum aligned with these standards. In appealing to the logic of tests and standards, school leaders and teachers worked to confront and validate their existing schemas of teaching from the new one as part of the transformation and learning process (Sewell, 1993). For instance, while teachers evoked state and district tests to clarify some confusion as to what they should be focusing on – computational or reasoning skills – to align with state and district tests, they attempted to understand how assessing more complex skills, which appeared to them as unrelated to previous assessments in mathematics, was relevant if the state continued to assess basic skills. School leaders and teachers also appealed to state policy to persuade district policymakers who are "in between them", of the validity of some of their arguments. Findings illustrate how influential and persuasion processes are not solely held by formal authorities, but that district leaders and university partners also give in to teachers' arguments about the validity of their claims, showing a much more complex story than told in the literature (Coburn & Woulfin, 2012).

Findings show that while high stakes policy sets clear non-negotiable topics (sequence and pace of curriculum, state standardized tests), school leaders and teachers were still left with some opportunities to interpret and adapt the new curriculum. For instance, never in the situations observed did authorities address the issue of how and why moving away from the mastery of basic knowledge and computational skills was beneficial for students' learning. Unaddressed topics, thus, opened up room for school leaders and teachers to interpret and locally adapt some aspects of the curriculum content and instructional activities based on what they believed would be best for their students (Coburn, Touré & Yashamita, 2009).

Another contribution of this dissertation to the literature on high stakes policy and curricular reform efforts has to do with understanding the relationship between curriculum reform and social structures in relation to high stakes policy. I underscored how the taken-for-granted professional accountability structure among school leaders and teachers in curriculum reform initiatives structures instructional improvement. While these findings corroborate previous evidence on how high stakes standards worked to change some aspects of the social structure by redirecting teachers' attention toward standards (Spillane, Mesler Parise & Zoltners Sherer, 2011; Zoltners Sherer & Spillane, 2011), the evidence I provided also shows how paying less attention to the longstanding conflicts and power struggles among school leaders and teachers prevented them from building stronger professional accountability. For instance, ignoring the conflicts and divisions among teachers precluded them from engaging in deep and reflective discussions collectively about the use of best practices for instruction without setting new norms and rules for talking and sharing ideas as part of the routines (Coburn, 2001; Datnow, Park & Kennedy-Lewis, 2013).

Findings show the weak professional structure among school actors transformed one conceptual tool meant for instructional purposes into bureaucratic conformity demands over time. For instance, while the original script of best practice was intended to improve communication, collaboration and instruction among grade teams, in the course of performance, grade team presentations transformed into the establishment of conformity with bureaucratic expectations. Teams focused primarily on the visible outcomes of the best practice presentations by eliciting the alignment of classroom lessons with district standards, and their account of their instructional goals with classroom activities. Faced with an implicit understanding of best practice expectations, they came to perform what they believed was expected by the principal as a way of reducing their uncertainties.

These findings shed light on how the patterns of interactions structure instructional improvement, evidence also showed how different leaders' sense-making, also mediated the use of a same routine – best practice- for instruction. I underscored how the contrasting meanings complicated the use of best practices in instruction in various ways. By comparing two situations, I demonstrated how this routine took different and conflicting meanings and implications for instruction. More specifically, I illustrated how the use of one routine -best practices- took two distinct accountability meaning: bureaucratic and professional by attending to the processes that shaped how teachers came to understand its purpose and provided an account to their peers. First, by focusing exclusively on standards in specifying expectations, school leaders directed teachers' attention on aligning their instruction with bureaucratic outcomes. This also sent the signal that the purpose of using best practices as complying with the district's demand. Second, by focusing on instructional goals and lessons, university partners attended to the processes by which teachers set their own goals for a lesson and the

different steps it involved in their daily instructional activities. University partners took into account what the use of best practices also meant in relation to the district standards and benchmarks.

5.4 Policy Implications and Future Research

Findings from this dissertation suggest that how persuasion and authority were necessary to guide school leaders' and teachers' discussions on standards and tests requirements related to their daily work, to increase instructional consistency within school and build commitment to policy (Levin, 2007; McLaughlin, 1987). However, the findings provide further evidence that even though pressures, power and imposition invoked by different leaders are necessary, the rhetorical strategies are not sufficient for convincing teachers to change their beliefs, values and prior knowledge about teaching and learning. School actors need some room to negotiate and confront new knowledge and ideas and to judge the relevance and validity of the different leaders' proposed statements. This suggests that local autonomy is also necessary for encouraging local actors to learn new demands and make connections with local conditions and assume responsibility in terms of decision-making and professional judgment for mobilizing support for policy, and thus reducing conflicts between different schemas of teaching (Cohen Moffitt & Goldin, 2007). Striving to find a balance between pressures and local autonomy, although only one of the many challenges of large-scale efforts, remains fundamental in order to bring about substantial changes in practice (Clune, 1993; Coburn Cohen, 1995; Levin, 2007). This raises questions about not only how much pressure must be exerted on school actors, but also about for what processes or results should they be held accountable. Considering that some school leaders and teachers work within weak

professional accountability structures, policymakers should take into account that finding this balance may not be achieved through universal policies and instruments. Moreover, although too much pressure may encourage some changes, these changes may not achieve their original aim of improving the quality of education and experiences that are offered in these contexts.

Many professions press for lifelong training and constant self-improvement. The educational field is no exception to this tendency. Many researchers argue that professional accountability aiming at building individual ethics and a collective sense of expectations (i.e. shared norms, high expectations for students, strong moral purpose and commitment) contributes to improving the quality of education in the long run (Abelmann & Elmore, 1999; Ben Jaafar & Anderson, 2007; Harris & Chapman, 2004). However, before trying to achieve these professional aspirations, findings suggest that policymakers and researchers should first take into account the often taken for granted social structure among school actors that may act as a considerable obstacle to such aspirations (O'Day, 2002; Metha, 2013). Given that conflict-ridden social structures may prevent instructional consensus, collaboration and the sharing of ideas to support collective and ongoing improvement, (re)designing organizational routines and using new conceptual tools may not be sufficient if it avoids addressing historical issues within schools. If conceptual tools such as best practices are to improve collaboration and instruction consistency so that these tools strengthen professional accountability structures, their implementation also should take into account the state of the existing patterns of interactions and set realistic expectations.

The foregoing implies that further research is crucial to unpack the multidimensionality of curriculum reform initiatives in relation to high stakes testing and standard. More investigations are needed to better understand the complexities, challenges and contradictions

different actors face in their everyday instructional activities. Taking into account issues related to the ever-changing circumstances, multiple policy messages and tools, that are converging in districts and schools, more questions about the kind of human and material support will enable administrators, principals and teachers in becoming professionals (Cohen, 2011; Metha, 2013). To answer those questions, the use of agency and structure as a theoretical framework provides promising and multiple possibilities. One important reason is that the framework proposes to move away from the existing dichotomies that have prevailed in some high stakes testing and curriculum reform studies. Using agency and structure as reciprocal implies trying to find a balance between the deterministic individual and social forces and the constructivist views on the extent of system actors in their choices and actions. The biggest challenge remains not to underestimate the extent of system actors' agency (e.g. choices, decisions) all the while not obscuring the factors limiting their action (e.g. external pressures such as government's policies), or vice versa (Pozzebon, 2004; Wallace, 2003).

There are many ways to apprehend the reciprocal nature of agency and structure. While some scholars have argued that the notions of agency and structure themselves remain elusive, and still need conceptual clarification (François, 2010), the advantage of exploring the two-way relationship in which many aspects of high stakes testing and curriculum reform enable and/or constrain system actors' day-to-day activities. Future studies should also consider how system actors' activities are mediated and situated in the different social spaces over time. Investigating agency allows the researcher to grasp the complexity of different system actors' autonomy and choices over their action – including a set of different dimensions that account for the way agents act. Analyzing structure allows the researcher to seize the immutable, stable and external forces as well as the causal patterns of the structure that shape system actors'

action, but also consider how the same structure may enable both stability and change over time. At least three streams emerge predominantly among the multiple definitions and uses of agency: individual, social and communication (Emirbrayer and Mische, 1998). From an individual perspective, scholars such as Bandura and phenomenologists have focused on agency in terms of individuals' intentionality and goals-seeking. The structure represents the social-psychological schemas that guide agents' perception (Francois, 2010). From a social perspective, scholars such as Bourdieu and Giddens view agency in terms of the routinized, repetitiveness and taken-for-granted dimensions of actors' practices (Emirbrayer and Mische, 1998). For those scholars, the notion of agency is understood as synonymous of action. Structure refers to the position of the agents in a social space – can also be referred to as social systems. It also designates a set of rules, routines and principles that guide actions. From a communication perspective, scholars have emphasized the dimensions of judgment, deliberation and rhetorical strategies. From these perspectives, it appears that what and how structure constrains system actors' agency will, thus, depend on one's understanding of structure. Consequently, the explanatory power of such framework is multiple if one considers the intersection of exogenous and internal influences that has considerably expanded due to a plurality of programs and organisations (e.g. central district office and universities). This opens up many different opportunities for agency and structures to come at play (Whittington, 1992).

To operationalize the above theoretical framework, investigating the role of language as one crucial dimension of the reciprocal relationship of agency and structure provides further promising research insights. While language may appear to be a reductive part of agency, focusing on it as a means of analysis brings an interesting contribution in three ways. First,

language is composed of words and utterances that are not neutral. Words and utterances are tainted by meanings, profession, genre, generation, age group (Ahern, 2001). Their use in interactions helps researchers to better understand what participants can say and how they can express certain statements with different authority figures in different social spaces over time. It allows them to analyze how both agency (e.g. what I choose to express) and structure (e.g. what are the taboos) manifest among participants. Second, the implementation of reformed curriculum often comes along with a new language (vocabulary, concepts, pedagogical ideas,) that needs to be acquired. Looking at how system actors acquire and understand this new language and how it becomes entrenched in the daily school activities may also reveal sources of changes and stability over time. It begs to question, for instance, if the acquisition and understanding of this new language remain at the surface level, or are deeply embedded in the recurrent patterns of interactions with different stakeholders. Finally, discourse analysis avoids dealing with the tricky issues and longstanding debates of actors' intentionality by focusing on language as action. A rhetorical argumentation analysis, for instance, enabled me to observe how different participants argued about a mandated curriculum using different rhetorical appeals without attempting to assume what they intended to say, but relying on what they actually expressed. In so doing, the use of language to better understand the complexities, challenges and contradictions different actors face in their everyday instructional activities allows unveiling recurring concerns or issues over time about reformed curriculum.

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Addendum I. Comparison of the Rhetorical Appeals about the Mandated Curriculum over a Two-Year Period (2000-2002)

Types of arguments	*Faculty Meetings (2000-2002)*	*Math workshop w/university partners (2000-2001)*	*District Math Assistance w/Math Cadre Rep (2001-2002)*
Logic (factual knowledge, evidence or data)	**Strategies used by school leaders in relation to instructional practice:** ▪ **Referred directly to the district standards and components of professional practice text to ensure teachers complied with their instruction plan and curriculum pace and sequence;** ▪ **Underscored the importance of using the mathematical language as a means of raising academic standards;** ▪ **Proposed supplemental place value material aligned with the NCTM standards; Asserted that material used same mathematical language to convince teachers of considering supplemental material** ▪ **Used the fact of "being four points away from warning" to persuade teachers to work collectively for the betterment of the students; stressed the importance of instructional consistency between and across grades** ▪ **Insisted on accelerated standards as a source of alignment with high school standards**	**Strategies used by university partners in relation to the new mathematical approach:** ▪ **Referred to students' representations to justify the necessity of conceptual changes in mathematics (shift towards visualization versus traditional numerical representation)** ▪ **Evoked lack of time to move on from ongoing debate about the relevance of the curriculum in regards to the state standards and standardized test.** Strategies used by the district superintendent in relation to curriculum: ▪ Referred to data to support her claim that the curriculum helped improve students' performance on computational skills Strategies used by the teachers in relation to the curriculum and testing demands: ▪ Evoked state and district tests to underscore the contradictions among the two and confusions it created in regards to the concepts and content coverage to prioritize ▪ Relied on the district assessments to underscore require students to write explanations for their solutions and the skills that are really being assessed	**Strategies used by the Math Cadre rep to demonstrate the logical fallacies of focusing on basic knowledge and skills in mathematics** : ▪ **Relied on statistics and the number of questions on the ISAT to show the low portion of computational skills assessed** ▪ **Used national standards and low-performance on international assessments to justify the relevance of implementing instructional changes** Strategies used by school leaders in relation to inconsistencies in their school: ▪ Underscored the inconsistency of mathematical languages and concepts across grades supporting their claim by the fact that K-1 grades were piloting a different program than 2-6 grades
Pathos (stories, Figurative speech, testimonies)	~No coded sequence~	**Strategies used by teacher leaders and teachers in relation to both the new mathematical approach and testing:** ▪ **Evoked their worries to appeal to university partners…to question the relevance of curriculum content for low-**	Strategies used by the Math Cadre rep to underscore the misconceptions and the erroneous of past beliefs: ▪ Used figurative speech such hodge-podging to connect teachers' with the idea that districts previously did not

		performing students; underscored their difficulties on the district assessments on the writing explanation portion ▪ **Marked their difficulties to demonstrate the complexities of the conceptual and instructional changes in practice as well as the increased curricular activities and content coverage**	know exactly what they were doing
Ethos (credibility, authority, expertise)	Strategies used by school leaders in relation to accountability demands: ▪ Evoked district authority figures to ascend to the state standardized test over the district assessment. and the alignment between the curriculum and state and district tests Strategies used by teachers in relation to instruction program decision-making: ▪ Debated about local versus district expertise as a way to gain teachers' commitment and mobilize them to change instruction	Strategies used by university partners to build confidence and their credibility about teaching the reform mathematics: ▪ Evoked her experience to reinforce arguments about the feasible and efficacy of instructional changes Strategies used by the district superintendent in relation to convince teachers ▪ Stated that the state tests should have priority over the district assessment; Supported her claims on the decision made during the superintendents' meeting Strategies used by teachers both state policy: ▪ Evoked the superintendent's discourse to state that the district assessment was the bottom-lie ▪ Called upon the district superintendent to answer questions about standardized test requirements and to what teachers were accountable for	**Strategies used by Math Cadre rep in relation to the relevance of the curriculum:** ▪ Worked to persuade teachers' of the efficiency of certain curricular activities based on her own experience ▪ Referred to the ISAT to show the alignment of the curriculum with the states requirements

Most frequent arguments in bold: calculated based on word frequency on coded segments

Addendum II. Mapping Discussions about Best Practices in Formal Meetings over a Two-Year Period (2000-2001)

Faculty Meetings (k-5 teachers) 2000-2001	Faculty Meetings (k-5 teachers) 2001-2002	The Fluency Project (targeted 1st and 2nd grade teachers) 2001-2002
Presentation of kindergarten teacher leader ***Topic:*** **How to teach parents about children's learning** ***Sources of ideas and knowledge:*** **evidence from research and uncited textbooks** ***Focus on*****: 1) philosophy of teaching, 2) cites principles of classroom environment including learning skills**	**Presentation of 3rd grade teachers** ***Topic*****:** How to teach guided reading and writing ***Sources of ideas and knowledge:***: the book "Strategies that Work" that includes teaching strategies so that students become engaged, thoughtful, independent readers, the district guided reading workshop and the related books ***Focus on*****:** 1) the standards to which the activity aligned, 2) sample of students' work,	**Individualized Presentation of 1st grade teacher** ***Topic*****:** a shared reading lesson ***Sources of ideas and knowledge:***: brainstorm with reading coaches on a given topic, ***Focus on*****:** the instructional goal of the lesson, 2) lesson template, 3) the instructional tools that achieve goal (a story map, sequence chart, webbing, etc.)
	Presentation of 4th grade teacher leader ***Topic*****:** How to teach inferences ***Sources of ideas and knowledge:*** ideas from a consultant workshop, and the book "Strategies that Work" that includes teaching strategies so that students become engaged, thoughtful, independent readers ***Focus on*****:** 1) the standard to which the activity aligned, 2) the integration of the strategy with other subject matter (social studies)	**Individualized Presentation of 1st grade teacher** ***Topic*****:** a guided reading lesson ***Sources of ideas and knowledge:***: reading coaches ***Focus on*****:** the instructional goal of the lesson, 2) a four quadrant template, 2) a sample of students' work
	Presentation of one 5th grade teacher ***Topic*****:** Present classroom activities ***Sources of ideas and knowledge:*** the Brain Teaser activity book and existing activities ***Focus on*****:** 1) numerous standards, 2) the material she uses, 3) music to prompt children to write	**Collective Preparation of the Project to the School Board** ***Topic:*** how they develop demonstration capabilities ***Focus on*****:** 1) students' progress, 2) white charts with post-it to track students' progress, 3) the alignment with district standards, 4)
	Presentation of 2nd grade teachers ***Topic*****:** How to integrate video as visualization medium to develop comprehension strategies ***Sources of ideas and knowledge***: the "Scholastic" textbooks ***Focus on*****:** 1) the standard to which the activity aligned, 2) the integration of the strategy with other subject matter (geography, mathematics and science) and 3) their collaborative work	

	Presentation of 1st grade teachers ***Topic***: How to teach guided reading and shared reading separately ***Sources of ideas and knowledge*:** reading coaches, ***Focus on*:** 1) cite numerous standards, 2) explanation of what best practice is, 3) theme-oriented team 4) the integration of the strategy with other subject matters (mathematics and science)	